Willow Brook and Willow Brook Pond
United Technologies Corporation
Pratt & Whitney
East Hartford, CT

November 2002 Volume 3 of 5 Appendices A to C RCRA RECORDS CENTER
FACILITY Pratt & Whitney Main St.
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PREPARED FOR:

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An Employee Owned Company
Comm. No. 88UT002

### Appendix A

Table of Performance Evaluation Sample Certified Values and Analytical Results





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Loureiro Engineering Associates, Inc.

	Reported												
Chemical Name	Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limi	it	Result
PCB-1016 (Arochlor 1016)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E111660-25					
PCB-1221 (Arochlor 1221)	ND<0.40	U	0.40	0.120	ug/l	I	PREM	E111660-25					
PCB-1232 (Arochlor 1232)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E111660-25					
PCB-1242 (Arochlor 1242)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E111660-25					
PCB-1248 (Arochlor 1248)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E111660-25					
PCB-1254 (Arochlor 1254)	3.8		0.40	0.120	ug/l	1	PREM	E111660-25	3.90	4.60	2.35	Pass	
PCB-1260 (Arochlor 1260)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E111660-25					
ocation Identifier: WT-AC-02-00	13												
Sample Identifier 2001315	11/14/2001 18:1	5 Perf	forman	ce Evalı	uation	- Wate	er						
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limi	it	Result
PCB-1016 (Arochlor 1016)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E111656-6					
PCB-1221 (Arochlor 1221)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E111656-6					
PCB-1232 (Arochlor 1232)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E111656-6					
PCB-1242 (Arochlor 1242)	ND<0.40	U	0.40	0.120	ug/l	l	PREM	E111656-6					
PCB-1248 (Arochlor 1248)	ND<0.40	U	0.40	0.120	ug/l	l	PREM	E111656-6					
PCB-1254 (Arochlor 1254)	4.6		0.40	0.120	ug/l	l	PREM	E111656-6	4.78	5.56	2.91	Pass	
PCB-1260 (Arochlor 1260)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E111656-6					
ocation Identifier: WT-AC-03-00	······································												
Sample Identifier 2001270	11/06/2001 14:0	0 Perf	orman	ce Evalı	uation -	- Wate	er						
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limi	t	Result
PCB-1016 (Arochlor 1016)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E111220-36					
CB-1221 (Arochlor 1221)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E111220-36					
CB-1232 (Arochlor 1232)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E111220-36					
CB-1242 (Arochlor 1242)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E111220-36					
					-								
•	ND<0.40	U	0.40	0.120	ug/l	l	PREM	E111220-36					
PCB-1248 (Arochlor 1248) PCB-1254 (Arochlor 1254)	ND<0.40 2.4	U	0.40 0.40	0.120 0.120	ug/l ug/l	1 1		E111220-36 E111220-36	2.86	3.59	1.71	Pass	



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Loureiro Engineering Associates, Inc.

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Location Identifier: WT-AC-03-002 Sample Identifier 2001301	11/09/2001 16:0	0 Pe	erformar	nce Eval	uation	- Wat	er						
Chemical Name	Reported	Qualifiers		M.D.L.		Dil.	Lab.	Lab. Number	Reference	Unper Limit	Lower Limit	 t	Result
	Concentration									орре: Опп.			
PCB-1016 (Arochlor 1016)	ND<0.40	U	0.40	0.120	ug/l	1		E111435-26					
PCB-1221 (Arochlor 1221)	ND<0.40	U	0.40	0.120	ug/l	I .		E111435-26					
PCB-1232 (Arochlor 1232)	ND<0.40	U	0.40	0.120	ug/l			E111435-26					
PCB-1242 (Arochlor 1242)	ND<0.40	U	0.40	0.120	ug/l	1		E111435-26					
PCB-1248 (Arochlor 1248)	ND<0.40	U	0.40	0.120	ug/l	1		E111435-26	. =0		• • •		
PCB-1254 (Arochlor 1254)	2.4		0.40	0.120	ug/l	1		E111435-26	4.78	5.56	2.91	FAIL	
PCB-1260 (Arochlor 1260)	ND<0.40	U	0.40	0.120	ug/l	ı	PREM	E111435-26					
Location Identifier: WT-AC-03-005													
Sample Identifier 2001331	11/27/2001 14:0	2 P€	rformar	ice Eval	uation	- Wate	er						····
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number՝	Reference	Upper Limit	Lower Limit	t	Result
PCB-1016 (Arochlor 1016)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E111A64-10					7
PCB-1221 (Arochlor 1221)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E111A64-10					
PCB-1232 (Arochlor 1232)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E111A64-10					
PCB-1242 (Arochlor 1242)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E111A64-10					
PCB-1248 (Arochlor 1248)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E111A64-10					
PCB-1254 (Arochlor 1254)	6.2		0.40	0.120	ug/l	1	PREM	E111A64-10	7.17	8.34	4.36	Pass	
PCB-1260 (Arochlor 1260)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E111A64-10					
Location Identifier: WT-AC-03-006													
Sample Identifier 2001332	11/27/2001 14:0	5 Pe	rforman	ice Eval	uation -	- Wate	er						
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	t 	Result
1,1,1-Trichloroethane	39		5.0	0.184	ug/l	1	PREM	E111A64-11	39.6	47.8	30.1	Pass	
1,1,2,2-Tetrachloroethane	150		5.0	0.243	ug/l	1	PREM	E111A64-11	133	168	96.2	Pass	
1,1,2-Trichloroethane	ND<5.0	U	5.0	0.175	ug/l	1	PREM	E111A64-11					
			5.0	0.228	ug/l	1	PREM	E111A64-11					
1,1-Dichloroethane	ND<5.0	U	5.0	0.220	ug/I	1	LICEIVE	LIIIAOTII					
,	ND<5.0 ND<5.0	U	5.0	0.228	ug/i ug/i	1		E111A64-11					
1,1-Dichloroethene					ug/l	1 1 1	PREM		73.8	90.0	58.7	Pass	
1,1-Dichloroethene 1,2-Dichloroethane	ND<5.0		5.0	0.274	ug/l ug/l	1 1 1	PREM PREM	E111A64-11	73.8 64.5	90.0 75.5	58.7 50.3	Pass Pass	
1,1-Dichloroethene 1,2-Dichloroethane 1,2-Dichloropropane	ND<5.0 73		5.0 5.0	0.274 0.288	ug/l	1 1 1 1	PREM PREM PREM	E111A64-11 E111A64-11					
1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloropropane 2-Hexanone Acetone	ND<5.0 73 65	U	5.0 5.0 5.0	0.274 0.288 0.234	ug/l ug/l ug/l	1 1 1 1 1	PREM PREM PREM PREM	E111A64-11 E111A64-11 E111A64-11					



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Bromodichloromethane	56		5.0	0.172	ug/l	1	PREM	E111A64-11	55.3	66.5	44.7	Pass	
Bromoform	72		5.0	0.127	ug/l	1	PREM	E111A64-11	66.4	82.9	51.5	Pass	
Bromomethane	ND<5.0	U	5.0	0.167	ug/l	ì	PREM	E111A64-11					
Carbon Disulfide	ND<5.0	U	5.0	0.498	ug/l	1	PREM	E111A64-11					
Carbon Tetrachloride	35		5.0	0.228	ug/l	1	PREM	E111A64-11	33.9	43.4	25.5	Pass	
Chlorobenzene	14		5.0	0.157	ug/l	1	PREM	E111A64-11	14.4	16.9	12.0	Pass	
Chloroethane	ND<5.0	U	5.0	0.525	ug/l	1	PREM	E111A64-11					
Chloroform	14		5.0	0.226	ug/l	1	PREM	E111A64-11	13.8	16.6	11.2	Pass	
Chloromethane	ND<5.0	U	5.0	0.148	ug/l	1	PREM	E111A64-11					
Dibromochloromethane	46		5.0	0.156	ug/l	1	PREM	E111A64-11	43.5	52.9	33.6	Pass	
Ethylbenzene	28		5.0	0.176	ug/l	1	PREM	E111A64-11	27.1	32.4	21.1	Pass	
Methyl Ethyl ketone (2-Butanone)	ND<10	U	10	1.94	ug/l	1	PREM	E111A64-11					
Methyl Isobutyl ketone (4-Methyl-2-Penta	61		10	1.89	ug/l	1	PREM	E111A64-11	59.8	75.9	35.1	Pass	
Methylene Chloride	25		5.0	0.789	ug/l	1	PREM	E111A64-11	27.8	35.2	21.1	Pass	
Styrene	ND<5.0	U	5.0	0.170	ug/l	1	PREM	E111A64-11					
Tetrachloroethylene (PCE)	46		5.0	0.171	ug/l	1	PREM	E111A64-11	50.3	59.3	38.5	Pass	
Toluene	40		5.0	0.188	ug/l	1	PREM	E111A64-11`	40.2	46.7	32.4	Pass	
Trichloroethylene (TCE)	23		5.0	0.220	ug/l	1	PREM	E111A64-11	24.8	29.5	18.9	Pass	
Vinyl Chloride	ND<5.0	U	5.0	0.111	ug/l	1	PREM	E111A64-11					
cis-1,3-Dichloropropene	ND<5.0	U	5.0	0.139	ug/l	1	PREM	E111A64-11					
m,p-Xylene (Sum of Isomers)	ND<5.0	U	5.0	0.424	ug/l	1	PREM	E111A64-11					
o-Xylene (1,2-Dimethylbenzene)	ND<5.0	U	5.0	0.171	ug/l	1	PREM	E111A64-11					
trans-1,3-Dichloropropene	ND<5.0	U	5.0	0.0680	ug/l	1	PREM	E111A64-11					
Location Identifier: WT-AC-03-007					-			_				_	
Sample Identifier 2001333	11/27/2001 14:0	8 Per	formar	ice Eval	uation	- Wat	er						
Chemical Name	Reported	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limi	t	Result
	Concentration		0.40	0.150									
Total Petroleum Hydrocarbons EPA 418.1	10		0.40	0.150	mg/L	l	PREM	E111A64-12	6.93	8.66	4.16	FAIL	
Location Identifier: WT-AC-03-008													
Sample Identifier 2001334	11/27/2001 14:1	0 Per	forman	ice Eval	uation	- Wat	er						
· · · · · · · · · · · · · · · · · · ·	Reported												
Chemical Name	Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limi	t	Result
1,2,4-Trichlorobenzene	100		5.0	0.330	ug/l	1	PREM	E111A64-13	150	155	66.2	Pass	
1,2-Dichlorobenzene	15		5.0	0.400	ug/l	1	PREM	E111A64-13	27.2	30.4	6.64	Pass	
1,3-Dichlorobenzene	33		5.0	0.310	ug/l	1	PREM	E111A64-13	58.9	64.8	15.1	Pass	
1,4-Dichlorobenzene	ND<5.0	U	5.0	0.300	ug/l	1	PREM	E111A64-13		•			
2,4,5-Trichlorophenol	92		5.0	0.550	ug/l	l	PREM	E111A64-13	112	126	59.2	Pass	
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2,4,6-Trichlorophenol	110		5.0	0.420	ug/l	1	PREM E111A64-13	146	169	71.7	Pass	
2,4-Dichlorophenol	140		5.0	0.380	ug/l	l	PREM E111A64-13	189	199	94.3	Pass	
2,4-Dimethylphenol	80		5.0	0.640	ug/l	1	PREM E111A64-13	123	139	49.0	Pass	
2,4-Dinitrophenol	120		5.0	0.0700	ug/l	1	PREM E111A64-13	184	191	30.1	Pass	
2,4-Dinitrotoluene	40		5.0	0.600	ug/l	1	PREM E111A64-13	55.4	64.2	28.9	Pass	
2.6-Dinitrotoluene	130		5.0	0.530	ug/l	1	PREM E111A64-13	165	193	89.1	Pass	
2-Chloronaphthalene	ND<5.0	U	5.0	0.510	ug/l	1	PREM E111A64-13					
2-Chlorophenol	52		5.0	0.400	ug/l	1	PREM E111A64-13	87.2	96.0	39.9	Pass	
2-Methylnaphthalene	ND<5.0	U	5.0	0.430	ug/l	1	PREM E111A64-13					
2-Methylphenol (o-Cresol)	13		5.0	0.420	ug/l	1	PREM E111A64-13	30.4	36.5	10.5	Pass	
2-Nitroaniline	ND<25	U	25	0.550	ug/l	1	PREM E111A64-13					
2-Nitrophenol	19		5.0	0.420	ug/l	1	PREM E111A64-13	28.7	32.2	14.0	Pass	
3,3'-Dichlorobenzidine	ND<5.0	U	5.0	0.730	ug/l	1	PREM E111A64-13					
3-Nitroaniline	ND<25	U	25	0.440	ug/l	1	PREM E111A64-13					
4,6-Dinitro-2-Methylphenol	44		5.0		ug/l	1	PREM E111A64-13	60.2	65.9	26.3	Pass	
4-Bromophenyl Phenyl ether	100		5.0	0.530	ug/l	1	PREM E111A64-13	133	151	75.3	Pass	
4-Chloro-3-Methylphenol	110		5.0	0.440	ug/l	1	PREM E111A64-13	158	180	85.7	Pass	
4-Chloroaniline	ND<10	U	10	0.410	ug/l	1	PREM E111A64-13					
4-Chlorophenyl Phenyl ether	77		5.0	0.540	ug/l	1	PREM E111A64-13	101	113	53.1	Pass	
4-Nitroaniline	ND<10	U	10	0.480	ug/l	1	PREM E111A64-13					
4-Nitrophenol	ND<5.0	U	5.0	0.290	ug/l	I	PREM E111A64-13					
Acenaphthene	68		5.0	0.450	ug/l	1	PREM E111A64-13	83.3	93.9	43.9	Pass	
Acenaphthylene	11		5.0	0.470	ug/1	1	PREM E111A64-13	19.0	22.0	9.72	Pass	
Anthracene	32		5.0	0.560	ug/l	1	PREM E111A64-13	49.8	57.2	28.4	Pass	
Benzo(a)anthracene	18		5.0	0.420	ug/l	1	PREM E111A64-13	37.0	39.5	24.8	FAIL	
Benzo(a)pyrene	8.8		5.0	0.350	ug/l	1	PREM E111A64-13	20.0	22.9	9.42	FAIL	
Benzo(b)fluoranthene	18		5.0	0.400	ug/l	1	PREM E111A64-13	41.4	49.8	21.3	FAIL	
Benzo(g,h,i)perylene	ND<5.0	U	5.0	0.420	ug/l	1	PREM E111A64-13					
Benzo(k)fluoranthene	18		5.0	0.360	ug/l	1	PREM E111A64-13	38.3	50.0	17.0	Pass	
Benzyl Butyl Phthalate	44		5.0	0.460	ug/l	1	PREM E111A64-13	56.6	68.5	21.5	Pass	
Carbazole	ND<5.0	U	5.0		ug/l	1	PREM E111A64-13					
Chrysene	22		5.0	0.440	ug/l	1	PREM E111A64-13	48.6	56.0	27.7	FAIL	
Cresol,m- & p-	ND<5.0	U	5.0	0.740	ug/l	1	PREM EIIIA64-13					
Dibenz(a,h)anthracene	8.6		5.0	0.370	ug/l	1	PREM E111A64-13	18.4	21.7	0	Pass	
Dibenzofuran	30		10	0.480	ug/l	1	PREM E111A64-13	43.8	49.9	21.7	Pass	
Diethyl Phthalate	ND<5.0	U	5.0	0.660	ug/l	1	PREM E111A64-13					
Dimethyl Phthalate	47		5.0	0.600	ug/l	I	PREM E111A64-13	63.4	80.4	14.7	Pass	
Fluoranthene	23		5.0	0.480	ug/l	1	PREM E111A64-13	36.4	41.8	. 22.7	Pass	
Fluorene	ND<5.0	U	5.0	0.540	ug/l	1	PREM E111A64-13					
Hexachlorobenzene	33	Ü	5.0	0.550	ug/l	1	PREM E111A64-13	70.0	80.5	40.6	FAIL	
TICAGONOTOUCHZONG	55		5.0	0.550	~ <i></i>	•	21	, 0.0	00.5		- 1 - 1 - 1	



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Hexachlorobutadiene	ND<5.0	U	5.0	0.320	ug/l	l	PREM	E111A64-13				
Hexachlorocyclopentadiene	98		5.0	0.250	ug/l	l	PREM	E111A64-13	155	161	19.0	Pass
Hexachloroethane	ND<5.0	U	5.0	0.270	ug/l	1	PREM	E111A64-13				
Indeno(1,2,3-c,d)pyrene	ND<5.0	U	5.0	0.400	ug/l	l	PREM	E111A64-13				
Isophorone	ND<5.0	U	5.0	0.440	ug/l	1	PREM	E111A64-13				
Naphthalene	96		5.0	0.390	ug/l	1	PREM	E111A64-13	133	150	55.9	Pass
Nitrobenzene	23		5.0	0.380	ug/l	1	PREM	E111A64-13	36.7	41.8	19.2	Pass
Pentachlorophenol	46		5.0	0.380	ug/l	ì	PREM	E111A64-13	67.4	80.1	28.1	Pass
Phenanthrene	78		5.0	0.560	ug/l	1		E111A64-13	96.1	110	51.2	Pass
Phenol	9.3		5.0	0.360	ug/l	1	PREM	E111A64-13	63.4	70.0	0	Pass
Pyrene	21		5.0	0.390	ug/l	1	PREM	E111A64-13	38.2	48.4	19.6	Pass
bis(2-Chloroethoxy) Methane	ND<5.0	U	5.0	0.460	ug/l	1		E111A64-13				
bis(2-Chloroethyl) ether (2-Chloroethyl	23		5.0	0.350	ug/l	1	PREM	E111A64-13	38.7	44.2	18.4	Pass
bis(2-Chloroisopropyl) ether	ND<10	U	10	0.310	ug/l	1	PREM	E111A64-13				
bis(2-Ethylhexyl) Phthalate	. 21		5.0	1.77	ug/l	1	PREM	E111A64-13	44.1	55.6	24.2	FAIL
di-n-Butyl Phthalate	ND<5.0	U	5.0	1.14	ug/l	1	PREM	E111A64-13				
di-n-Octylphthalate	ND<5.0	U	5.0	0.500	ug/l	1	PREM	E111A64-13				
ui-ii-Octyrphinalate							DDEL	ELLIACA 13	49.6	57.0	23.0	Pass
n-Nitrosodi-n-Propylamine	33		5.0	0.580	ug/l	1	PKEM	E111A64-13	49.0	37.0	23.0	1 433
n-Nitrosodi-n-Propylamine n-Nitrosodiphenylamine	33 ND<5.0	U	5.0	0.580 0.640	ug/l ug/l	1		E111A64-13	49.0		25.0	1 455
n-Nitrosodi-n-Propylamine n-Nitrosodiphenylamine  ocation Identifier: WT-AC-03-009 Sample Identifier 2001335	ND<5.0	:12 Per	5.0 forman	0.640 ce Eval	ug/I uation -	l Wate	PREM	E111A64-13				
n-Nitrosodi-n-Propylamine n-Nitrosodiphenylamine  Location Identifier: WT-AC-03-009 Sample Identifier 2001335	ND<5.0	:12 Per	5.0	0.640	ug/I uation -	1	PREM				Lower Limit	Result
n-Nitrosodi-n-Propylamine n-Nitrosodiphenylamine Location Identifier: WT-AC-03-009	ND<5.0	:12 Per	5.0 forman	0.640 ce Eval	ug/I uation -	Wate	PREM er Lab.	E111A64-13				
n-Nitrosodi-n-Propylamine n-Nitrosodiphenylamine  Location Identifier: WT-AC-03-009 Sample Identifier 2001335  Chemical Name  Cyanide  Location Identifier: WT-AC-03-010	ND<5.0  11/27/2001 14  Reported Concentratio 0.92	:12 Per	5.0 forman R.L. 0.050	0.640 ce Eval M.D.L.	ug/l uation - Units mg/L	Water Dil.	PREM Lab. PREM	E111A64-13  Lab. Number	Reference	Upper Limit	Lower Limit	Result
n-Nitrosodi-n-Propylamine n-Nitrosodiphenylamine  Location Identifier: WT-AC-03-009 Sample Identifier 2001335  Chemical Name  Cyanide	ND<5.0  11/27/2001 14  Reported Concentratio 0.92  11/27/2001 14	:12 Per	5.0 forman R.L. 0.050	0.640 ce Eval	ug/l uation - Units mg/L	Water Dil.	PREM Lab. PREM	E111A64-13  Lab. Number	Reference	Upper Limit	Lower Limit	Result
n-Nitrosodi-n-Propylamine n-Nitrosodiphenylamine  Location Identifier: WT-AC-03-009 Sample Identifier 2001335  Chemical Name  Cyanide  Location Identifier: WT-AC-03-010 Sample Identifier 2001336	ND<5.0  11/27/2001 14  Reported Concentratio 0.92	:12 Per Qualifiers :15 Per Qualifiers	5.0 forman R.L. 0.050	0.640 ce Eval M.D.L.	ug/l uation - Units mg/L uation -	Water Dil.	PREM Lab. PREM	E111A64-13  Lab. Number	Reference	Upper Limit 1.09	Lower Limit	Result Pass
n-Nitrosodi-n-Propylamine n-Nitrosodiphenylamine  Location Identifier: WT-AC-03-009 Sample Identifier 2001335  Chemical Name Cyanide  Location Identifier: WT-AC-03-010 Sample Identifier 2001336  Chemical Name	ND<5.0  11/27/2001 14  Reported Concentratio 0.92  11/27/2001 14  Reported	:12 Per Qualifiers :15 Per Qualifiers	forman	0.640  ce Eval  M.D.L.  ce Eval	ug/l uation - Units mg/L uation -	Water Dil.	PREM Lab. PREM Lab.	E111A64-13  Lab. Number E111A64-14	Reference 0.862	Upper Limit 1.09	Lower Limit 0.597	Result Pass
n-Nitrosodi-n-Propylamine n-Nitrosodiphenylamine  Location Identifier: WT-AC-03-009 Sample Identifier 2001335  Chemical Name Cyanide  Location Identifier: WT-AC-03-010 Sample Identifier 2001336  Chemical Name  Arsenic	ND<5.0  11/27/2001 14  Reported Concentratio 0.92  11/27/2001 14  Reported Concentratio	:12 Per Qualifiers :15 Per Qualifiers	5.0 forman R.L. 0.050 forman R.L. 0.010	0.640  ce Eval  M.D.L.  ce Eval	uation - Units mg/L  uation - Units mg/L	Water Dil.	PREM  Lab. PREM  Lab. PREM	E111A64-13  Lab. Number E111A64-14  Lab. Number	Reference 0.862	Upper Limit 1.09  Upper Limit	Lower Limit 0.597 Lower Limit	Result Pass Result
n-Nitrosodi-n-Propylamine n-Nitrosodiphenylamine  .ocation Identifier: WT-AC-03-009    Sample Identifier 2001335  Chemical Name Cyanide  .ocation Identifier: WT-AC-03-010    Sample Identifier 2001336  Chemical Name Arsenic Barium	ND<5.0  11/27/2001 14  Reported Concentratio 0.92  11/27/2001 14  Reported Concentratio 0.38	:12 Per Qualifiers :15 Per Qualifiers	forman R.L. 0.050 forman R.L. 0.010 0.010	ce Eval  M.D.L.  ce Eval  M.D.L.	uation - Units mg/L  uation - Units mg/L  io mg/L	Water Dil.	PREM  PREM  PREM  PREM  PREM  PREM  PREM	E111A64-13  Lab. Number E111A64-14  Lab. Number E111A64-15	Reference 0.862	Upper Limit 1.09 Upper Limit .461	Lower Limit 0.597 Lower Limit	Result Pass  Result Pass
n-Nitrosodi-n-Propylamine n-Nitrosodiphenylamine  Location Identifier: WT-AC-03-009 Sample Identifier 2001335  Chemical Name Cyanide  Location Identifier: WT-AC-03-010 Sample Identifier 2001336  Chemical Name  Arsenic Barium Cadmium	ND<5.0  11/27/2001 14  Reported Concentratio 0.92  11/27/2001 14  Reported Concentratio 0.38 0.50	:12 Per Qualifiers :15 Per Qualifiers	forman R.L. 0.050 forman R.L. 0.010 0.010 0.002	ce Eval M.D.L. 0 0.00068	uation - Units mg/L  Units mg/L  Units mg/L  0 mg/L  0 mg/L	Water Dil.	PREM Lab. PREM Lab. PREM PREM PREM PREM	E111A64-13  Lab. Number E111A64-14  Lab. Number E111A64-15 E111A64-15	Reference 0.862  Reference 403 486	Upper Limit 1.09 Upper Limit .461 .538	Lower Limit 0.597  Lower Limit .345 .434	Result Pass Result Pass Pass
n-Nitrosodi-n-Propylamine n-Nitrosodiphenylamine  Location Identifier: WT-AC-03-009 Sample Identifier 2001335  Chemical Name  Cyanide  Location Identifier: WT-AC-03-010 Sample Identifier 2001336  Chemical Name  Arsenic Barium Cadmium Chromium, Total	ND<5.0  11/27/2001 14  Reported Concentratio 0.92  11/27/2001 14  Reported Concentratio 0.38 0.50 0.12	:12 Per Qualifiers :15 Per Qualifiers	forman R.L. 0.050 forman R.L. 0.010 0.010 0.002 0.010	0.640  ce Eval  M.D.L.  0 0.00068 0.000032	uation - Units mg/L  Units mg/L  0 mg/L  0 mg/L  0 mg/L	Water Dil.  Dil.  Dil.  1  1  1	PREM  Lab.  PREM  PREM  PREM  PREM  PREM  PREM  PREM  PREM  PREM	E111A64-13  Lab. Number E111A64-14  Lab. Number E111A64-15 E111A64-15 E111A64-15	Reference 0.862  Reference 403 486 129	Upper Limit 1.09 Upper Limit .461 .538 .144	Lower Limit 0.597  Lower Limit .345 .434 .114	Result Pass Result Pass Pass Pass
n-Nitrosodi-n-Propylamine n-Nitrosodi-n-Propylamine Location Identifier: WT-AC-03-009 Sample Identifier 2001335 Chemical Name Cyanide Location Identifier: WT-AC-03-010 Sample Identifier 2001336 Chemical Name Arsenic Barium Cadmium Chromium, Total Copper	ND<5.0  11/27/2001 14  Reported Concentratio 0.92  11/27/2001 14  Reported Concentratio 0.38 0.50 0.12 0.20	:12 Per Qualifiers :15 Per Qualifiers	forman R.L. 0.050 forman R.L. 0.010 0.010 0.002 0.010 0.010	0.640  ce Eval  M.D.L.  0 0.00068 0.00032 0.00074	uation - Units mg/L  Units mg/L  0 mg/L  0 mg/L  0 mg/L  0 mg/L	Water Dil.  Dil.  Dil.  1  1  1  1	PREM  Lab. PREM	E111A64-13  Lab. Number E111A64-14  Lab. Number E111A64-15 E111A64-15 E111A64-15 E111A64-15	Reference 0.862  Reference 403 486 129 222	Upper Limit 1.09 Upper Limit .461 .538 .144 .246	Lower Limit 0.597 Lower Limit .345 .434 .114 .198	Result Pass Result Pass Pass Pass Pass
n-Nitrosodi-n-Propylamine n-Nitrosodiphenylamine  Location Identifier: WT-AC-03-009 Sample Identifier 2001335  Chemical Name Cyanide  Location Identifier: WT-AC-03-010 Sample Identifier 2001336  Chemical Name  Arsenic Barium Cadmium Chromium, Total Copper Lead	ND<5.0  11/27/2001 14  Reported Concentratio 0.92  11/27/2001 14  Reported Concentratio 0.38 0.50 0.12 0.20 0.31	:12 Per Qualifiers :15 Per Qualifiers	forman R.L. 0.050 forman R.L. 0.010 0.010 0.002 0.010 0.010 0.004	0.640  ce Eval  M.D.L.  0 0.00068 0.00032 0.00074 0.00087	uation - Units mg/L  Units mg/L  Units mg/L  0 mg/L  0 mg/L  0 mg/L  0 mg/L	Dil. 5  Wate Dil. 1 1 1 1 1 1 1	PREM  Lab.  PREM	E111A64-13  Lab. Number E111A64-14  Lab. Number E111A64-15 E111A64-15 E111A64-15 E111A64-15 E111A64-15	Reference 0.862  Reference 403 486 129 222 344	Upper Limit 1.09 Upper Limit .461 .538 .144 .246 .383	Lower Limit 0.597  Lower Limit .345 .434 .114 .198 .305	Result Pass Result Pass Pass Pass Pass Pass
n-Nitrosodi-n-Propylamine n-Nitrosodiphenylamine  Location Identifier: WT-AC-03-009 Sample Identifier 2001335  Chemical Name Cyanide  Location Identifier: WT-AC-03-010 Sample Identifier 2001336  Chemical Name Arsenic	ND<5.0  11/27/2001 14  Reported Concentratio 0.92  11/27/2001 14  Reported Concentratio 0.38 0.50 0.12 0.20 0.31 0.31	:12 Per Qualifiers :15 Per Qualifiers	forman R.L. 0.050 forman R.L. 0.010 0.010 0.002 0.010 0.004 0.0004	0.640  ce Eval  M.D.L.  0 0.00068 0.00032 0.00074 0.00087	uation - Units mg/L  uation - Units mg/L  0 mg/L  0 mg/L  0 mg/L  1 mg/L  1 mg/L	Dil. 5  Wate Dil. 1 1 1 1 1 1 1	PREM  Lab.  PREM  PREM	E111A64-13  Lab. Number E111A64-14  Lab. Number E111A64-15 E111A64-15 E111A64-15 E111A64-15 E111A64-15 E111A64-15	Reference 0.862  Reference 403 486 129 222 344	Upper Limit 1.09 Upper Limit .461 .538 .144 .246 .383	Lower Limit 0.597  Lower Limit .345 .434 .114 .198 .305	Result Pass Result Pass Pass Pass Pass Pass



Page 6 Silver Zinc	0.27 1.0			0 0.00627 0.00198				E111A64-15 E111A64-15	298 1110	Loureir .334 1.250	o Engineer .262 .972	ing Ass Pass Pass	sociates, i
Location Identifier: WT-AC-03-011 Sample Identifier 2001358	11/27/2001 17:1	0 Per	forman	ice Evalu	uation -	Wate	er						
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limi	i <b>t</b>	Result
PCB-1016 (Arochlor 1016)	ND<0.40	U	0.40	0.120	ug/l	i	PREM	E111A87-12		***			
PCB-1221 (Arochlor 1221)	ND<0.40	U	0.40	0.120	ug/l	1	PREM						
PCB-1221 (Arochlor 1221)	ND<0.40	U	0.40	0.120	ug/l	1		E111A87-12					
PCB-1242 (Arochlor 1242)	ND<0.40	U	0.40	0.120	ug/l	1		E111A87-12					
PCB-1242 (Arochlor 1242)	ND<0.40	U	0.40	0.120	ug/l	1		E111A87-12					
PCB-1254 (Arochlor 1254)	2.5		0.40	0.120	ug/l	ì		E111A87-12	2.92	3.45	1.76	Pass	
PCB-1260 (Arochlor 1260)	ND<0.40	U	0.40	0.120	ug/l	1		E111A87-12			, .	. 200	
PCB-1016 (Arochlor 1016) PCB-1221 (Arochlor 1221)	Reported Concentration ND<0.40 ND<0.40	<b>Qualifiers</b> U U	0.40 0.40	M.D.L. 0.120 0.120	ug/l ug/l	Dil. 1	PREM	E111C12-10 E111C12-10	Kelerence	Upper Limit	Lower Limi	<u> </u>	Result
PCB-1232 (Arochlor 1232)	ND<0.40	U	0.40	0.120	ug/l	1		E111C12-10					
PCB-1242 (Arochlor 1242)	ND<0.40	U	0.40	0.120	ug/l	l		E111C12-10					
PCB-1248 (Arochlor 1248)	ND<0.40	U	0.40	0.120	ug/l	1		E111C12-10					
PCB-1254 (Arochlor 1254)	2.4		0.40	0.120	ug/l	l		E111C12-10	2.39	2.78	1.46	Pass	
PCB-1260 (Arochlor 1260)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E111C12-10					
ocation Identifier: WT-AC-03-013 Sample Identifier 2001402	11/30/2001 12:4	5 Per	forman	ce Evalu	ıation -	Wate	er .						
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limi	t	Result
PCB-1016 (Arochlor 1016)	ND<0.40	U	0.40	0.120	ug/l	l	PREM	E111C70-7					
PCB-1221 (Arochlor 1221)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E111C70-7					
PCB-1232 (Arochlor 1232)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E111C70-7					
PCB-1242 (Arochlor 1242)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E111C70-7					
PCB-1248 (Arochlor 1248)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E111C70-7					
PCB-1254 (Arochlor 1254)	6.1		0.40	0.120	ug/l	1		E111C70-7 E111C70-7	9.67	12.8	4.95	Pass	



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Loureiro Engineering Associates, Inc.

Sample Identifier 2001403	11/30/2001 13:2	.5 101	.01111411	ce Evalu	aution	,, at	· ·						
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	t	Result
PCB-1016 (Arochlor 1016)	ND<0.41	U	0.41	0.120	ug/l	1	PREM	E111C63-7					
PCB-1221 (Arochlor 1221)	ND<0.41	U	0.41	0.120	ug/l	1	PREM	E111C63-7					
PCB-1232 (Arochlor 1232)	ND<0.41	U	0.41	0.120	ug/l	1	PREM	E111C63-7					
PCB-1242 (Arochlor 1242)	ND<0.41	U	0.41	0.120	ug/i	l	PREM	E111C63-7					
PCB-1248 (Arochlor 1248)	ND<0.41	U	0.41	0.120	ug/l	1	PREM	E111C63-7					
PCB-1254 (Arochlor 1254)	4.0		0.41	0.120	ug/l	1	PREM	E111C63-7	5.09	6.72	2.61	Pass	
PCB-1260 (Arochlor 1260)	ND<0.41	U	0.41	0.120	ug/l	I	PREM	E111C63-7					
ocation Identifier: WT-AC-03-015													
Sample Identifier 2001404	11/30/2001 13:3	0 Per	forman	ce Evalı	ation	- Wat	er						
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	ţ	Result
Arsenic	0.34		0.010	0	mg/L	1	PREM	E111C63-8	0.351	0.402	0.300	Pass	
3arium -	0.86		0.010	0.00068	0 mg/L	1	PREM	E111C63-8	0.838	0.928	0.746	Pass	
Cadmium	0.44		0.0020	0.00032	0 mg/L	1	PREM	E111C63-8	0.483	0.539	0.427	Pass	
Chromium, Total	0.26		0.010	0.00074	0 mg/L	1	PREM	E111C63-8	0.267	0.296	0.238	Pass	
Copper	0.40		0.010	0.00087	0 mg/L	1	PREM	E111C63-8	0.424	0.471	0.377	Pass	
Lead	0.22		0.0040	0.00175	mg/L	1	PREM	E111C63-8	0.229	0.257	0.201	Pass	
Mercury	0.0026		0.0002	2(0.00002	2 mg/L	1	PREM	E111C63-8	0.002430	0.00304	0.00182	Pass	
Nickel	0.62		0.010	0.00108	mg/L	1	PREM	E111C63-8	0.648	0.717	0.579	Pass	
Selenium	0.48		0.010	0.00460	mg/L	1	PREM	E111C63-8	0.513	0.589	0.437	Pass	
Silver	0.23		0.0020	0.00627	mg/L	1	PREM	E111C63-8	0.238	0.267	0.209	Pass	
Zinc	0.30		0.010	0.00198	mg/L	1	PREM	E111C63-8	0.332	0.373	0.291	Pass	
ocation Identifier: WT-AC-03-016							·						_
Sample Identifier 2001405	11/30/2001 13:3	5 Peri	forman	ce Evalı	iation ·	- Wate	er						
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit		Result
Cyanide	0.24		0.010		mg/L	ı	PREM	E111C63-9	.214	.281	.142	Pass	



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1,2,4-Trichlorobenzene	77		5.0	0.330	ug/l	1	PREM E111C63-10	113	117	32.9	Pass
1,2-Dichlorobenzene	81		5.0	0.400	ug/l	1	PREM E111C63-10	121	138	28.3	Pass
1.3-Dichlorobenzene	ND<5.0	U	5.0	0.310	ug/l	1	PREM E111C63-10				
1,4-Dichlorobenzene	ND<5.0	U	5.0	0.300	ug/l	1	PREM E111C63-10				
2,4,5-Trichlorophenol	52		5.0	0.550	ug/l	1	PREM E111C63-10	64.8	73.0	25.5	Pass
2,4,6-Trichlorophenol	110		5.0	0.420	ug/l	1	PREM E111C63-10	128	148	55.3	Pass
2,4-Dichlorophenol	50		5.0	0.380	ug/l	1	PREM E111C63-10	64.4	69.96	32.6	Pass
2,4-Dimethylphenol	17		5.0	0.640	ug/l	1	PREM E111C63-10	20.5	24.2	5.79	Pass
2,4-Dinitrophenol	90		5.0	0.0700	ug/l	1	PREM E111C63-10	161	170	27.1	Pass
2,4-Dinitrotoluene	77		5.0	0.600	ug/l	1	PREM E111C63-10	88.9	104	49.3	Pass
2,6-Dinitrotoluene	46		5.0	0.530	ug/l	1	PREM E111C63-10	56.3	63.7	30.0	Pass
2-Chloronaphthalene	24		5.0	0.510	ug/l	l	PREM E111C63-10	30.2	34.2	11.7	Pass
2-Chlorophenol	13		5.0	0.400	ug/l	1	PREM E111C63-10	15.5	18.6	0	Pass
2-Methylnaphthalene	ND<5.0	U	5.0	0.430	ug/l	1	PREM E111C63-10				
2-Methylphenol (o-Cresol)	100		5.0	0.420	ug/l	1	PREM E111C63-10	171	195	42.9	Pass
2-Nitroaniline	ND<25	U	25	0.550	ug/l	1	PREM E111C63-10				
2-Nitrophenol	22		5.0	0.420	ug/l	i	PREM E111C63-10	28.0	31.4	13.7	Pass
3,3'-Dichlorobenzidine	ND<5.0	U	5.0	0.730	ug/l	1	PREM E111C63-10				
3-Nitroaniline	ND<25	U	25	0.440	ug/l	1	PREM E111C63-10				
4,6-Dinitro-2-Methylphenol	140		5.0		ug/l	1	PREM E111C63-10	166	206	54.6	Pass
4-Bromophenyl Phenyl ether	120		5.0	0.530	ug/l	1	PREM E111C63-10	142	161	80.3	Pass
4-Chloro-3-Methylphenol	120		5.0	0.440	ug/l	1	PREM E111C63-10	144	164	78.0	Pass
4-Chloroaniline	ND<10	U	10	0.410	ug/l	1	PREM E111C63-10				
4-Chlorophenyl Phenyl ether	23		5.0	0.540	ug/l	1	PREM E111C63-10	29.0	33.1	15.1	Pass
4-Nitroaniline	ND<10	U	10	0.480	ug/l	1	PREM E111C63-10				
4-Nitrophenol	29		5.0	0.290	ug/l	1	PREM E111C63-10	77.6	87.3	0	Pass
Acenaphthene	17		5.0	0.450	ug/l	1	PREM E111C63-10	20.4	23.3	9.26	Pass
Acenaphthylene	42		5.0	0.470	ug/l	1	PREM E111C63-10	54.8	59.9	29.0	Pass
Anthracene	49		5.0	0.560	ug/l	l	PREM E111C63-10	57.2	65.5	31.7	Pass
Benzo(a)anthracene	25		5.0	0.420	ug/l	1	PREM E111C63-10	31.2	32.9	13.1	Pass
Benzo(a)pyrene	ND<5.0	U	5.0	0.350	ug/l	1	PREM E111C63-10				
Benzo(b)fluoranthene	17		5.0	0.400	ug/l	1	PREM E111C63-10	22.0	25.5	14.1	Pass
Benzo(g,h,i)perylene	ND<5.0	U	5.0	0.420	ug/l	1	PREM E111C63-10				
Benzo(k)fluoranthene	8.6		5.0	0.360	ug/l	1	PREM E111C63-10	10.5	16.8	0	Pass
Benzyl Butyl Phthalate	47		5.0	0.460	ug/l	1	PREM E111C63-10	56.6	75.3	15.2	Pass
Carbazole	ND<5.0	U	5.0		ug/l	1	PREM E111C63-10				
Chrysene	34		5.0	0.440	ug/l	1	PREM E111C63-10	40.4	46.4	23.6	Pass
Cresol,m- & p-	ND<5.0	U	5.0	0.740	ug/l	1	PREM E111C63-10				_
Dibenz(a,h)anthracene	9.5		5.0	0.370	ug/l	1	PREM E111C63-10	11.9	13.3	0	Pass
Dibenzofuran	69		10	0.480	ug/l	1	PREM E111C63-10	1.88	112	28.0	Pass



								Loureir	ro Engineeri	ng Ass	sociates
24		5.0	0.660 u	g/l I	PREM	E111C63-10	26.0	34.6	0	Pass	
130		5.0	0. <b>6</b> 00 u	g/l l	PREM	E111C63-10	160	197	0	Pass	
12		5.0	0.480 u	g/l 1	PREM	E111C63-10	13.8	15.8	0	Pass	
69			0.540 u	g/l l	PREM	E111C63-10	90.3	103	50.9	Pass	
23		5.0	0.550 u	g/l 1	PREM	E111C63-10	29.3	33.9	17.0	Pass	
1.5		1.0	0.320 u	g/l l	PREM	E111C63-10	1.5	2.0	0.5	Pass	
100				g/l 1	PREM	E111C63-10	117	122	13.8	Pass	
ND<5.0	U	5.0	0.270 u	g/l l	PREM	E111C63-10					
ND<5.0	U	5.0	0.400 u	g/l l	PREM	E111C63-10					
ND<5.0	U	5.0	0.440 u	g/l 1	PREM	E111C63-10					
46		5.0	0.390 u	g/l l	PREM	E111C63-10	64.0	72.8	29.0	Pass	
ND<5.0	U	5.0	0.3 <b>8</b> 0 u	g/l 1	PREM	E111C63-10					
93		5.0	0.380 u	g/l i	PREM	E111C63-10	111	133	49.6	Pass	
ND<5.0	U	5.0	0.560 u	g/1 1	PREM	E111C63-10					
35		5.0	0.360 u	g/l 1	PREM	E111C63-10	117	127	0	Pass	
120		5.0	0.390 u	g/l 1	PREM	E111C63-10	142	167	71.2	Pass	
ND<5.0	U	5.0 (	0.460 u	g/l 1	PREM	E111C63-10'					
ND<5.0	U	5.0	0.350 u <sub>i</sub>	g/l 1	PREM	E111C63-10					
ND<10	U	10 (	0.310 u	g/l l	PREM	E111C63-10					
120		5.0	1.77 uj	g/i 1	PREM	E111C63-10	129	161	48.1	Pass	
120		5.0	l.14 uj	g/l 1	PREM	E111C63-10	143	169	46.8	Pass	
55		5.0	0.500 uj	g/l 1	PREM	E111C63-10	65.6	82.6	26.2	Pass	
ND<5.0	U	5.0	0.580 u <sub>i</sub>	<u>2</u> /l 1	PREM	E111C63-10					
ND<5.0	U	5.0	0.640 u	g/l l	PREM	E111C63-10					
11/30/2001 13:4	15 Per	formance	Evaluat	ion - W	ater						
Reported Concentration	Qualifiers	R.L.	M.D.L. Ut	nits D	il. Lab.	Lab. Number	Reference	Upper Limit	Lower Limit		Result
50		2.0	).750 m	g/L 5	PREM	E111C63-11	37.9	39.5	22.7	FAIL	
11/30/2001 13:5	0 Per	formance	Evaluat	ion - W	ater						
11/30/2001 13:5  Reported Concentration	Qualifiers		Evaluat M.D.L. Ur			Lab. Number	Reference	Upper Limit	Lower Limit		Result
Reported		R.L. I	M.D.L. Ur	nits D	I. Lab.	Lab. Number E111C63-12	Reference	Upper Limit	Lower Limit	Pass	Result
Reported Concentration		R.L. 1	M.D.L. Ur ).184 uş	nits D	I. Lab. PREM						Result
Reported Concentration 36	Qualifiers	R.L. 1 5.0 0 5.0 0	M.D.L. Ur ).184 uş	nits D 2/l l 2/l l	I. Lab. PREM PREM	E111C63-12					Result
_	130 12 69 23 1.5 100 ND<5.0 ND<5.0 ND<5.0 ND<5.0 46 ND<5.0 93 ND<5.0 35 120 ND<5.0 ND<5.0 ND<5.0 ND<5.0 ND<5.0 ND<5.0 120 120 120 120 120 120 120 120 120 12	130 12 69 23 1.5 100 ND<5.0 U ND<5.0 U ND<5.0 U 46 ND<5.0 U 93 ND<5.0 U 35 120 ND<5.0 U ND<5.0 U ND<5.0 U ND<5.0 U 120 120 120 120 120 120 120 120 120 120	130 5.0 6  12 5.0 6  69 5.0 6  23 5.0 6  1.5 1.0 6  100 5.0 0  ND<5.0 U 5.0 6  ND S.0 U 5.0 C	130	130	130	130	130	130	130	130



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										Loureir	o Engineeri	ng Associates, Inc.
1,1-Dichloroethene	ND<5.0	U	5.0	0.274	ug/l	1		E111C63-12				
1,2-Dichloroethane	32		5.0	0.288	ug/l	1		E111C63-12	32.4	39.9	26.0	Pass
1,2-Dichloropropane	ND<5.0	U	5.0	0.234	ug/l	1		E111C63-12				
2-Hexanone	ND<10	U	10	1.88	ug/l	1		E111C63-12				
Acetone	ND<20	U	20	2.65	ug/l	1		E111C63-12				
Benzene	64		5.0	0.184	ug/l	1		E111C63-12	65.5	78.0	53.5	Pass
Bromodichloromethane	26		5.0	0.172	ug/l	1	PREM	E111C63-12	25.7	31.0	20.6	Pass
Bromoform	34		5.0	0.127	ug/l	1		E111C63-12	31.4	39.2	23.8	Pass
Bromomethane	ND<5.0	U	5.0	0.167	ug/l	1		E111C63-12				
Carbon Disulfide	ND<5.0	U	5.0	0.498	ug/l	1	PREM	E111C63-12				
Carbon Tetrachloride	24		5.0	0.228	ug/l	1	PREM	E111C63-12	24.2	31.0	18.3	Pass
Chlorobenzene	27		5.0	0.157	ug/l	1		E111C63-12	26.8	31.5	21.7	Pass
Chloroethane	ND<5.0	U	5.0	0.525	ug/l	1		E111C63-12				
Chloroform	71		5.0	0.226	ug/l	1		E111C63-12	70.2	83.0	55.5	Pass
Chloromethane	ND<5.0	U	5.0	0.148	ug/l	1		E111C63-12				
Dibromochloromethane	68		5.0	0.156	ug/l	1		E111C63-12	66.1	80.5	51.1	Pass
Ethylbenzene	23		5.0	0.176	ug/l	1		E111C63-12	23.1	27.6	18.0	Pass
Methyl Ethyl ketone (2-Butanone)	ND<10	U	10	1.94	ug/l	1		E111C63-12				
Methyl Isobutyl ketone (4-Methyl-2-Penta	72		10	1.89	ug/l	1		E111C63-12	72.0	96.7	44.3	Pass
Methylene Chloride	68		5.0	0.789	ug/l	l		E111C63-12	74.4	92.9	56.2	Pass
Styrene	ND<5.0	U	5.0	0.170	ug/l	i		E111C63-12				
Tetrachloroethylene (PCE)	60		5.0	0.171	ug/l	1	PREM	E111C63-12	59.9	70.5	45.8	Pass
Toluene	65		5.0	0.188	ug/l	1		E111C63-12	64.3	74.4	52.0	Pass
Trichloroethylene (TCE)	61		5.0	0.220	ug/l	1		E111C63-12	62.4	73.9	47.1	Pass
Vinyl Chloride	ND<5.0	U	5.0	0.111	ug/l	1	PREM	E111C63-12				
cis-1,3-Dichloropropene	ND<5.0	U	5.0	0.139	ug/l	1		E111C63-12				
m,p-Xylene (Sum of Isomers)	ND<5.0	U	5.0	0.424	ug/l	1	PREM	E111C63-12				
o-Xylene (1,2-Dimethylbenzene)	86		5.0	0.171	ug/l	1		E111C63-12	88.2	108	61.7	Pass
trans-1,3-Dichloropropene	ND<5.0	U	5.0	0.0680	ug/l	1	PREM	E111C63-12				
Location Identifier: WT-AC-03-020												
Sample Identifier 2001428	12/03/2001 13:0	O5 Per	forman	ce Eval	uation	- Wat	er					
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	Result
PCB-1016 (Arochlor 1016)	ND<0.40	U	0.40	0.120	ug/i	1	PREM	E112023-20				
PCB-1221 (Arochlor 1221)	ND<0.40	U	0.40	0.120	ug/l	1		E112023-20				
PCB-1232 (Arochlor 1232)	ND<0.40	Ū	0.40	0.120	ug/l	1	PREM	E112023-20				
PCB-1242 (Arochlor 1242)	ND<0.40	Ü	0.40	0.120	ug/l	1		E112023-20				
PCB-1248 (Arochlor 1248)	ND<0.40	U	0.40	0.120	ug/l	1		E112023-20				
12.0 (/ 1.00 12.10)		~			. <del></del>	-						



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PCB-1254 (Arochlor 1254) PCB-1260 (Arochlor 1260)	2.0 ND<0.40 U		0.40 0.40	0.120 0.120	ug/l ug/l	1		E112023-20 E112023-20	1.93	2.55	0.988	Pass	
Location Identifier: WT-AC-03-021 Sample Identifier 2001429	12/03/2001 13:07	Perf	ormanc	e Evalı	uation -	Wate	er						
Chemical Name	Reported Concentration	ualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	t	Result
Arsenic	0.18		0.010	0	mg/L	1	PREM	E112023-21	0.190.	0.224	0.155	Pass	
Barium	0.41		0.010	0.00068	0 mg/L	1	PREM	E112023-21	0.407	0.463	0.351	Pass	
Cadmium	0.039		0.0020	0.00032	0 mg/L	1	PREM	E112023-21	0.0423	0.0494	0.0353	Pass	
Chromium, Total	0.18		0.010	0.00074	0 mg/L	ī	PREM	E112023-21	0.194	0.221	0.167	Pass	
Copper	0.12		0.010	0.00087	0 mg/L	l		E112023-21	0.131	0.146	0.115	Pass	
Lead	0.25		0.0040	0.00175	mg/L	l	PREM	E112023-21	0.261	0.298	0.223	Pass	
Mercury	0.0032			(0.00002		1	PREM	E112023-21	0.003	0.004	0.002	Pass	
Nickel	0.15		0.010	0.00108	mg/L	1	PREM	E112023-21	0.154	0.175	0.132	Pass	
Selenium	0.23		0.010	0.00460	mg/L	1	PREM	E112023-21	0.231	0.269	0.180	Pass	
Silver	0.29		0.0020	0.00627	mg/L	1	PREM	E112023-21	0.308	0.353	0.264	Pass	
Zinc	0.098		0.010	0.00198	mg/L	1	PREM	E112023-21	0.55150	0.133	0.0970	Pass	
Location Identifier: WT-AC-03-022 Sample Identifier 2001430	12/03/2001 13:14	Perf	ormanc	e Evalu	ation -	Wate	er						
Chemical Name	Reported Concentration Qu	alifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit		Result
Cyanide	0.42		0.010		mg/L	1	PREM	E112023-22	0.421	.535	.307	Pass	
Location Identifier: WT-AC-03-023 Sample Identifier 2001431	12/03/2001 13:16	Perf	ormanc	e Evalı	ıation -	Wate	er			_ ,			
Chemical Name	Reported Concentration Qu	ialifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit		Result
Total Petroleum Hydrocarbons EPA 418.1	79		2.0	0.750	mg/L	5	PREM	E112023-23	63.1	78.9	37.9	FAIL	
Location Identifier: WT-AC-03-024 Sample Identifier 2001432	12/03/2001 13:18	Perf	ormanc	e Evalu	iation -	Wate	er						
Chemical Name	Reported Concentration Qu	ıalifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit		Result
1,2,4-Trichlorobenzene	18		5.0	0.330	ug/l	1	PREM	E112023-24	24.1	27.8	10.9	Pass	
1,2-Dichlorobenzene	79			0.400	ug/1	1		E112023-24	92.4		· 32.3	Pass	
1.3-Dichlorobenzene	ND<5.0 U			0.310	ug/l	1		E112023-24	> <b></b> .	> 1.1V	22.0		
1,4-Dichlorobenzene	ND<5.0 U			0.300	ug/l	1		E112023-24					
1, T-1210HOLOGOHZOHO	111273.0		5.0	0.500	ug/I		LINEIVI	1.112043-24					



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2,4,5-Trichlorophenol	80		5.0	0.550	ug/l	1	PREM I	E112023-24	75.6	85.0	42.2	Pass
2,4,6-Trichlorophenol	52		5.0	0.420	ug/l	1	PREM I	E112023-24	53.5	61.5	27.2	Pass
2,4-Dichlorophenol	90		5.0	0.380	ug/l	1	PREM I	E112023-24	118	126	59.1	Pass
2,4-Dimethylphenol	42		5.0	0.640	ug/i	1	PREM I	E112023-24	51.3	58.6	18.8	Pass
2,4-Dinitrophenol	100		5.0	0.0700	ug/l	1	PREM I	E112023-24	138	148	24.1	Pass
2,4-Dinitrotoluene	90		5.0	0.600	ug/l	1	PREM E	E112023-24	105	124	59.2	Pass
2,6-Dinitrotoluene	ND<5.0	U	5.0	0.530	ug/l	1	PREM I	E112023-24				
2-Chloronaphthalene	15		5.0	0.510	ug/l	1	PREM I	E112023-24	18.5	22.9	9.85	Pass
2-Chlorophenol	54		5.0	0.400	ug/l	1	PREM I	E112023-24	62.0	68.7	29.1	Pass
2-Methylnaphthalene	ND<5.0	U	5.0	0.430	ug/l	1	PREM I	E112023-24				
2-Methylphenol (o-Cresol)	22		5.0	0.420	ug/l	1	PREM E	E112023-24	28.9	33.0	12.2	Pass
2-Nitroaniline	ND<25	U	25	0.550	ug/l	1	PREM I	E112023-24				
2-Nitrophenol	13		5.0	0.420	ug/i	1	PREM E	E112023-24	14.9	16.3	7.67	Pass
3,3'-Dichlorobenzidine	ND<5.0	U	5.0	0.730	ug/l	1	PREM B	E112023-24				
3-Nitroaniline	ND<25	U	25	0.440	ug/i	l	PREM I	E112023-24				
4,6-Dinitro-2-Methylphenol	100		5.0		ug/l	1	PREM I	E112023-24	144	177	48.7	Pass
4-Bromophenyl Phenyl ether	100		5.0	0.530	ug/l	1	PREM I	E112023-24	98.3	112	56.3	Pass
4-Chloro-3-Methylphenol	63		5.0	0.440	ug/l	ı	PREM I	E112023-24	66.4	75.4	35.1	Pass
4-Chloroaniline	ND<10	U	10	0.410	ug/l	1	PREM I	E112023-24				
4-Chlorophenyl Phenyl ether	86		5.0	0.540	ug/l	1	PREM E	E112023-24	86.9	97.6	46.5	Pass
4-Nitroaniline	ND<10	U	10	0.480	ug/l	1	PREM I	E112023-24				
4-Nitrophenol	40		5.0	0.290	ug/i	1	PREM F	E112023-24	64.6	73.9	0	Pass
Acenaphthene	ND<5.0	U	5.0	0.450	ug/l	1	PREM I	E112023-24				
Acenaphthylene	15		5.0	0.470	ug/l	1	PREM I	E112023-24	18.3	21.3	9.34	Pass
Anthracene	19		5.0	0.560	ug/l	1	PREM E	E112023-24	20.6	23.3	11.2	Pass
Benzo(a)anthracene	21		5.0	0.420	ug/l	1	PREM E	E112023-24	25.0	26.2	17.2	Pass
Benzo(a)pyrene	ND<5.0	U	5.0	0.350	ug/l	1	PREM E	E112023-24				
Benzo(b)fluoranthene	11		5.0	0.400	ug/l	1	PREM E	E112023-24	15.1	17.9	8.61	Pass
Benzo(g,h,i)perylene	ND<5.0	U	5.0	0.420	ug/l	l	PREM E	E112023-24				
Benzo(k)fluoranthene	ND<5.0	U	5.0	0.360	ug/l	1	PREM E	E112023-24				
Benzyl Butyl Phthalate	100		5.0	0.460	ug/l	1	PREM E	E112023-24	111	123	45.1	Pass
Carbazole	ND<5.0	U	5.0		ug/l	1	PREM E	E112023-24				
Chrysene	22		5.0	0.440	ug/l	1	PREM E	E112023-24	25.3	28.8	16.0	Pass
Cresol,m- & p-	ND<5.0	U	5.0	0.740	ug/l	1	PREM E	E112023-24				
Dibenz(a,h)anthracene	ND<5.0	U	5.0	0.370	ug/l	l	PREM E	E112023-24				
Dibenzofuran	62		10	0.480	ug/l	1	PREM E	E112023-24	64.9	70.1	34.9	Pass
Diethyl Phthalate	130		5.0	0.660	ug/l	1	PREM E	E112023-24	142	169	51.5	Pass
Dimethyl Phthalate	13		5.0	0.600	ug/l	l	PREM E	E112023-24	14.5	17.1	. 5.54	Pass
Fluoranthene	17		5.0	0.480	ug/l	1	PREM E	E112023-24	19.8	22.7	13.6	Pass
Fluorene	38		5.0	0.540	ug/l	l	PREM E	E112023-24	39.4	45.6	22.5	Pass



Page 13 Loureiro Engineering Associates, Inc. Hexachlorobenzene ND<5.0 U 5.0 0.550 ug/l 1 PREM E112023-24 ND<5.0 U 5.0 0.320 ug/l 1 PREM E112023-24 Hexachlorobutadiene Hexachlorocyclopentadiene ND<5.0 U 5.0 0.250 ug/l ı PREM E112023-24 U Hexachloroethane ND<5.0 5.0 0.270 ug/l 1 PREM E112023-24 Indeno(1,2,3-c,d)pyrene 14 5.0 0.400 ug/l 1 PREM E112023-24 20.0 21.0 9.27 Pass 57 0.440 1 PREM E112023-24 58.1 67.3 Isophorone 5.0 ug/l 31.0 Pass Pass Naphthalene 110 5.0 0.390 ug/l 1 PREM E112023-24 139 156 58.2 Nitrobenzene 88 5.0 0.380 ug/l 1 PREM E112023-24 98.0 112 48.1 Pass 92.9 Pentachlorophenol 81 5.0 0.380 ug/l PREM E112023-24 78.0 333 Pass 21 1 PREM E112023-24 5.0 0.560 ug/l 27.3 14.5 Phenanthrene 24.4 Pass 54 PREM E112023-24 5.0 0.360 ug/l 1 134 145 29 7 Phenol Pass Pyrene 28 5.0 0.390 ug/l 1 PREM E112023-24 30.2 39.3 15.6 Pass 93 5.0 0.460 ug/l 1 PREM E112023-24 118 124 62.2 Pass bis(2-Chloroethoxy) Methane bis(2-Chloroethyl) ether (2-Chloroethyl ND<5.0 U 5.0 0.350 ug/l 1 PREM E112023-24 ND<10 U 10 0.310 I PREM E112023-24 bis(2-Chloroisopropyl) ether ug/l 23 5.0 1.77 ug/l 1 PREM E112023-24 20.9 26.6 14.1 bis(2-Ethylhexyl) Phthalate Pass ND<5.0 U 1 PREM E112023-24 di-n-Butyl Phthalate 5.0 1.14 ug/l di-n-Octylphthalate 64 5.0 0.500 ug/l 1 PREM E112023-24 61.1 77.2 24.7 Pass n-Nitrosodi-n-Propylamine ND<5.0 U 5.0 0.580 ug/I 1 PREM E112023-24 37 5.0 0.640 ug/l PREM E112023-24 49.7 n-Nitrosodiphenylamine 1 60.1 21.0 Pass Location Identifier: WT-AC-03-025 Performance Evaluation - Water Sample Identifier 2001433 12/03/2001 13:21 Reported Chemical Name Qualifiers R.L. M.D.L. Units Dil. Lab. Lab. Number Reference Upper Limit Lower Limit Result Concentration 39 5.0 0.184 PREM E112023-25 35.6 43.0 27.1 Pass 1.1.1-Trichloroethane ug/l 1 1 2 2-Tetrachloroethane 110 5.0 0.243 ug/l I PREM E112023-25 89.0 112 64.2 Pass ND<5.0 U 0.175 PREM E112023-25 1.1.2-Trichloroethane 5.0 ug/l ND<5.0 U 5.0 0.228 1 PREM E112023-25 1,1-Dichloroethane ug/l ND<5.0 U 0.274 PREM E112023-25 1.1-Dichloroethene 5.0 ug/l 1 46 0.288 ug/l 1 PREM E112023-25 44.7 54.8 35.7 1,2-Dichloroethane 5.0 Pass ND<5.0 U 5.0 0.234 ug/l 1 PREM E112023-25 1,2-Dichloropropane U PREM E112023-25 2-Hexanone ND<10 10 1.88 ug/l 1 ND<20 U PREM E112023-25 20 2.65 ug/l 1 Acetone 0.184 53 5.0 ug/l 1 PREM E112023-25 50.0 59.6 40.8 Pass Benzene 29 5.0 0.172 ug/! 1 PREM E112023-25 27.3 32.9 21.9 Pass Bromodichloromethane 25 5.0 0.127 ug/l 1 PREM E112023-25 32.0 19.2 Bromoform 25.6 Pass Bromomethane ND<5.0 U 5.0 0.167 ug/l 1 PREM E112023-25 U Carbon Disulfide ND<5.0 5.0 0.498 ug/l 1 PREM E112023-25



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Carbon Tetrachloride	42		5.0	0.228	ug/l	1	PREM	E112023-25	40.7	52.1	30.6	Pass	,
Chlorobenzene	59		5.0	0.157	ug/l	l	PREM	E112023-25	54.7	64.5	43.7	Pass	
Chloroethane	ND<5.0	U	5.0	0.525	ug/l	1	PREM	E112023-25					
Chloroform	78		5.0	0.226	ug/l	1	PREM	E112023-25	72.1	85.2	56.9	Pass	
Chloromethane	ND<5.0	U	5.0	0.148	ug/l	1	PREM	E112023-25					
Dibromochloromethane	23		5.0	0.156	ug/l	1	PREM	E112023-25	22.6	27.4	17.4	Pass	
Ethylbenzene	61		5.0	0.176	ug/l	1	PREM	E112023-25	58.1	69.8	44.9	Pass	
Methyl Ethyl ketone (2-Butanone)	ND<10	U	10	1.94	ug/l	1	PREM	E112023-25					
Methyl Isobutyl ketone (4-Methyl-2-Penta	86		10	1.89	ug/l	1	PREM	E112023-25	80.9	107	49.8	Pass	
Methylene Chloride	54		5.0	0.789	ug/l	1	PREM	E112023-25	58.6	73.3	44.3	Pass	
Styrene	ND<5.0	U	5.0	0.170	ug/l	1	PREM	E112023-25					
Tetrachloroethylene (PCE)	24		5.0	0.171	ug/l	l	PREM	E112023-25	27.1	32.1	20.7	Pass	
Toluene	54		5.0	0.188	ug/l	1	PREM	E112023-25	53.0	61.4	42.8	Pass	
Trichloroethylene (TCE)	38		5.0	0.220	ug/l	1	PREM	E112023-25	36.6	43.5	27.7	Pass	
Vinyl Chloride	ND<5.0	U	5.0	0.111	ug/l	1	PREM	E112023-25					
cis-1,3-Dichloropropene	ND<5.0	U	5.0	0.139	ug/l	1	PREM	E112023-25					
m,p-Xylene (Sum of Isomers)	56		5.0	0.424	ug/l	1		E112023-25	54.2	67.5	37.8	Pass	
o-Xylene (1,2-Dimethylbenzene)	ND<5.0	U	5.0	0.171	ug/i	1		E112023-25					
trans-1,3-Dichloropropene	ND<5.0	U	5.0	0.0680	ug/i	1	PREM	E112023-25					
Location Identifier: WT-AC-03-026 Sample Identifier 2001440 Chemical Name	12/04/2001 11:0  Reported  Concentration	)5 Per Qualifiers	forman R.L.	ce Evalı M.D.L.		- Wate Dil.	er Lab	Lab. Number	Reference	Upper Limit	Lower Limit		Result
DOD 1016 (A - 11-1016)		11	0.40	0.130			DDCM	E112070 7					
PCB-1016 (Arochlor 1016)	ND<0.40 ND<0.40	U U	0.40 0.40	0.120 0.120	ug/l	1		E112079-7 E112079-7					
PCB-1221 (Arochlor 1221)	ND<0.40	U	0.40	0.120	ug/l	1		E112079-7					
PCB-1232 (Arochlor 1232)	ND<0.40 ND<0.40	U	0.40	0.120	ug/l	I I		E112079-7 E112079-7					
PCB-1242 (Arochlor 1242)	ND<0.40 ND<0.40	U	0.40	0.120	ug/l ug/l	1		E112079-7					
PCB-1248 (Arochlor 1248)	6.0	U	0.40	0.120	ug/i ug/i	1		E112079-7	7.73	10.2	3.96	Pass	
PCB-1254 (Arochlor 1254) PCB-1260 (Arochlor 1260)	0.0 ND<0.40	U	0.40	0.120	ug/l ug/l	1		E112079-7	1.13	10.2	3.90	rass	
PCB-1260 (Afocilio 1260)	ND~0.40		0.40	0.120	ug/i		FKLIVI	L112079-7					
Location Identifier: WT-AC-03-027 Sample Identifier 2001458	12/05/2001 13:1	0 Per	forman	ce Evalı	uation -	- Wate	er	,					
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit		Result
PCB-1016 (Arochlor 1016)	ND -0 41	U	0.41	0.120	ug/l	1	DREM	E112129-18					
	ND<0.41	U	U. <del>+</del> I	0.120	ug/i	1	LINDIN	L112127-10					
PCB-1221 (Arochlor 1221)	ND<0.41 ND<0.41	U	0.41	0.120	ug/l	i		E112129-18			•		
PCB-1221 (Arochlor 1221) PCB-1232 (Arochlor 1232)		_				-	PREM						



Page 15										Loureir	o Enginee	ring As	sociates
PCB-1242 (Arochlor 1242)	ND<0.41	U	0.41	0.120	ug/l	1		E112129-18			-	-	
PCB-1248 (Arochlor 1248)	ND<0.41	Ü	0.41	0.120	ug/l	1		E112129-18					
PCB-1254 (Arochlor 1254)	5.2		0.41	0.120	ug/l	1		E112129-18	6.11	8.06	3.13	Pass	
PCB-1260 (Arochlor 1260)	ND<0.41	U	0.41	0.120	ug/l	l	PREM	E112129-18					
ocation Identifier: WT-AC-03-028 Sample Identifier 2001459	12/05/2001 13:1	5 Per	formano	ce Evalu	ıation -	Wate	er						
hemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.		Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Lin	nit	Result
arsenic	0.15		0.010	0	mg/L	1	PREM	E112129-19	0.151	0.173	0.130	Pass	
arium	0.34			0.000680		1	PREM	E112129-19	0.324	0.358	0.290	Pass	
admium	0.032			0.000320		1	PREM	E112129-19	0.0339	0.0378	0.030	Pass	
hromium, Total	0.15			0.000740		1	PREM	E112129-19	0.155	0.172	0.138	Pass	
Copper	0.10		0.010	0.000870	0 mg/L	1	PREM	E112129-19	0.104	0.116	0.092	Pass	
ead	0.21		0.0040	0.00175	mg/L	i	PREM	E112129-19	0.209	0.234	0.183	Pass	
Mercury	0.0023			(0.00002			PREM	E112129-19	0.02265	0.00283	0.00170	Pass	
lickel	0.12		0.010	0.00108	mg/L	1	PREM	E112129-19	0.122	0.135	0.110	Pass	
elenium	0.19			0.00460		1	PREM	E112129-19	0.185	0.212	0.158	Pass	
Silver	0.24		0.0020	0.00627	mg/L	1	PREM	E112129-19	0.246	0.276	0.217	Pass	
line	0.084		0.010	0.00198	mg/L	1	PREM	E112129-19	0.0912	0.102	0.0798	Pass	
Sample Identifier: WT-AC-03-029 Sample Identifier 2001460 Chemical Name	12/05/2001 13:1 Reported Concentration	7 Perf		ce Evalu			er Lab.	Lab. Number			Lowerlin		·- <u></u>
vanida					Omis	Dii.	Lau.	Lab. Hamber	Reference	Upper Limit	Lower Lill	111	Result
Cyanide	0.26		0.010		mg/L	Dil. 1		E112129-20	0.257	Upper Limit 0.331	0.182	Pass	Result
ocation Identifier: WT-AC-03-030 Sample Identifier 2001461	12/05/2001 13:1	9 Peri		ce Evalu	mg/L	1	PREM					***	Result
ocation Identifier: WT-AC-03-030 Sample Identifier 2001461		9 Perf			mg/L nation -	1	PREM				0.182	Pass	Result
ocation Identifier: WT-AC-03-030 Sample Identifier 2001461 hemical Name	12/05/2001 13:1 Reported		formano	ce Evalu	mg/L nation -	Wate	PREM er Lab.	E112129-20	0.257	0.331	0.182	Pass	
ocation Identifier: WT-AC-03-030 Sample Identifier 2001461 hemical Name 2,4-Trichlorobenzene	12/05/2001 13:1 Reported Concentration		formano R.L.	ce Evalu	mg/L nation - Units	Wate	PREM er Lab. PREM	E112129-20  Lab. Number	0.257	0.331 Upper Limit	0.182	Pass	
ocation Identifier: WT-AC-03-030 Sample Identifier 2001461 hemical Name 2,4-Trichlorobenzene 2-Dichlorobenzene	12/05/2001 13:1 Reported Concentration 50		Formanc R.L. 5.2	M.D.L.	mg/L nation - Units ug/l	Wate	PREM Lab. PREM PREM	E112129-20  Lab. Number E112129-21	0.257  Reference	Upper Limit	0.182 Lower Lim 50.4	Pass nit FAIL	
Docation Identifier: WT-AC-03-030 Sample Identifier 2001461 hemical Name  .2,4-Trichlorobenzene ,2-Dichlorobenzene ,2-Dichlorobenzene	12/05/2001 13:1 Reported Concentration 50 16		Formano R.L. 5.2 5.2	M.D.L. 0.330 0.400	mg/L nation - Units ug/l ug/l	Wate	PREM Lab. PREM PREM PREM	E112129-20  Lab. Number E112129-21 E112129-21	0.257  Reference 114 37	0.331  Upper Limit 118 40.8	0.182 Lower Lin 50.4	Pass nit FAIL Pass	
Docation Identifier: WT-AC-03-030 Sample Identifier 2001461 hemical Name  ,2,4-Trichlorobenzene ,2-Dichlorobenzene ,2-Dichlorobenzene ,3-Dichlorobenzene	12/05/2001 13:1 Reported Concentration 50 16 16	Qualifiers	Formance R.L. 5.2 5.2 5.2	M.D.L. 0.330 0.400 0.400	mg/L  uation -  Units  ug/l  ug/l  ug/l	Wate	PREM Lab. PREM PREM PREM PREM PREM	E112129-20  Lab. Number  E112129-21  E112129-21  E112129-21	0.257  Reference 114 37	0.331  Upper Limit 118 40.8	0.182 Lower Lin 50.4	Pass nit FAIL Pass	
Sample Identifier: WT-AC-03-030 Sample Identifier 2001461 Chemical Name  ,2,4-Trichlorobenzene ,2-Dichlorobenzene ,3-Dichlorobenzene ,4-Dichlorobenzene	12/05/2001 13:1  Reported Concentration 50 16 16 ND<5.2	Qualifiers	Formanc R.L. 5.2 5.2 5.2 5.2 5.2	M.D.L. 0.330 0.400 0.400 0.310	mg/L  units  ug/l ug/l ug/l ug/l	Wate	PREM Lab. PREM PREM PREM PREM PREM PREM PREM	E112129-20  Lab. Number  E112129-21  E112129-21  E112129-21  E112129-21	0.257  Reference 114 37 37	0.331  Upper Limit 118 40.8 40.8	0.182 Lower Lin 50.4 0	Pass  Pit  FAIL  Pass  Pass	
ocation Identifier: WT-AC-03-030	12/05/2001 13:1  Reported Concentration 50 16 16 ND<5.2 39	Qualifiers	Formano R.L. 5.2 5.2 5.2 5.2 5.2 5.2	M.D.L. 0.330 0.400 0.400 0.310 0.300	mg/L  uation -  Units  ug/l ug/l ug/l ug/l ug/l	Wate	PREM PREM PREM PREM PREM PREM PREM PREM	E112129-20  Lab. Number  E112129-21  E112129-21  E112129-21  E112129-21  E112129-21	0.257  Reference 114 37 37	0.331  Upper Limit 118 40.8 40.8	0.182 Lower Lin 50.4 0	Pass  Pass  FAIL  Pass  Pass  Pass	



								Lou	reiro Enaine	eering Associates, Inc.
47		5.2	0.640	ug/l	ı	PREM E112129-21	92.2	104	36	Pass
45		5.2	0.0700		1	PREM E112129-21	105	117	19.7	Pass
32		5.2	0.600		1	PREM E112129-21	57	66.2	29.9	Pass
ND<5.2	U	5.2	0.530		1	PREM E112129-21				
58		5.2	0.510		1	PREM E112129-21	124	139	48	Pass
63		5.2	0.400		1	PREM E112129-21	131	143	58.6	Pass
ND<5.2	U	5.2	0.430		1	PREM E112129-21				
ND<5.2	U	5.2	0.430		1	PREM E112129-21				
9.9		5.2	0.420		1	PREM E112129-21	20.5	23.4	5.2	Pass
ND<26	U	26	0.550		1	PREM E112129-21				
10		5.2	0.420		1	PREM E112129-21	21.3	23.7	10	
ND<5.2	U	5.2	0.730	ug/l	1	PREM E112129-21				
ND<5.2	U	5.2	0.730	ug/l	1	PREM E112129-21				
ND<26	U	26	0.440	ug/l	1	PREM E112129-21				
ND<5.2	U	5.2		ug/l	1	PREM E112129-21				
ND<5.2	U	5.2	0.530	ug/l	1	PREM E112129-21				
32		5.2	0.440	ug/l	1	PREM E112129-21'	58.5	66.4	30.7	Pass
ND<10	U	10	0.410	ug/l	1	PREM E112129-21				
48		5.2	0.540	ug/l	1	PREM E112129-21	95.2	107	50.4	FAIL
ND<10	U	10	0.480	ug/l	1	PREM E112129-21				
16			0.290	ug/l	1	PREM E112129-21	78.4	88.1	0	Pass
ND<5.2	U		0.450	ug/l	1	PREM E112129-21				
21			0.470	ug/l	1	PREM E112129-21	39.8	44	20.9	Pass
47			0.560	ug/l	1	PREM E112129-21	91.1	104	47.2	FAIL
			0.420	ug/l	l	PREM E112129-21	42.7	46	28.3	FAIL
	U		0.350	ug/l	1	PREM E112129-21				
				ug/l	1		57.6		27.2	FAIL
				ug/l	1		22.8	28.8	0	Pass
				-	I					
			0.460		1	PREM E112129-21				
	U				1	PREM E112129-21				
					I		60.3	69.7	33.5	FAIL
	U				-					
			0.370	ug/l	1	PREM E112129-21	29.8		13.1	Pass
			0.480	ug/l	I		148		45.4	Pass
39			0.660	ug/l	1	PREM E112129-21	80.9	103	22	Pass
		5.2	0.600	ug/l	1	PREM E112129-21	58.6	74.6	15.3	Pass
ND<5.2	U	5.2	0.480	ug/l	1	PREM E112129-21			-	
22		5.2	0.540	ug/l	1	PREM E112129-21	42.2	48.7	24.1	FAIL
ND<5.2	U	5.2	0.550	ug/l	1	PREM E112129-21				
	45 32 ND<5.2 58 63 ND<5.2 ND<5.2 9.9 ND<5.2 10 ND<5.2 ND<5.2 ND<5.2 ND<5.2 ND<5.2 10 10 ND<5.2 ND<5.2 10 48 ND<10 16 ND<5.2 21 47 22 ND<5.2 21 47 22 ND<5.2 25 15 ND<5.2 21 47 22 ND<5.2 21 47 22 ND<5.2 21 47 22 ND<5.2 21 47 22 ND<5.2 25 15 ND<5.2 21 47 22 ND<5.2 25 25 25 26 ND<5.2 27 28 29 29 29 20 20 20 20 20 20 20 20 20 20 20 20 20	45 32 ND<5.2 V 58 63 ND<5.2 U ND<5.2 U ND<5.2 U ND<5.2 U ND<26 U ND<5.2 U 32 ND<10 U 48 ND<10 U 16 ND<5.2 U 21 47 22 ND<5.2 U 25 15 ND<5.2 U 30 ND<5.2 U 31 ND<5.2 U 32 ND<5.2 U 39 30 ND<5.2 U 22	45 32 ND<5.2 ND<5.2 V 5.2 S8 5.2 ND<5.2 V 5.2 ND<5.2 V 5.2 ND<5.2 V 5.2 ND<5.2 V 5.2 ND<26 V 5.2 ND<5.2 V 5.2 S.2 S.2 ND<5.2 V 5.2 S.2 S.2 S.2 S.2 S.2 S.2 S.2 S.2 S.2 S	45	45 32 5.2 0.0700 ug/l 32 5.2 0.600 ug/l ND<5.2 U 5.2 0.530 ug/l 63 5.2 0.400 ug/l ND<5.2 U 5.2 0.400 ug/l ND<5.2 U 5.2 0.430 ug/l ND<5.2 U 5.2 0.420 ug/l ND<5.2 U 5.2 0.730 ug/l ND<5.2 U 5.2 0.730 ug/l ND<5.2 U 5.2 0.730 ug/l ND<5.2 U 5.2 0.440 ug/l ND<5.2 U 5.2 0.530 ug/l ND<5.2 U 5.2 0.540 ug/l ND<5.2 U 5.2 0.540 ug/l ND<10 U 10 0.410 ug/l 48 5.2 0.540 ug/l ND<10 U 10 0.480 ug/l A7 5.2 0.520 ug/l ND<5.2 U 5.2 0.420 ug/l ND<5.2 U 5.2 0.540 ug/l ND<5.2 U 5.2 0.440 ug/l ND<5.2 U 5.2 0.450 ug/l 0.480 ug/l 0.480 ug/l 0.47 0.52 0.52 0.420 ug/l 0.47 0.52 0.52 0.420 ug/l 0.480 ug/l 0.480 ug/l 0.49 0.49 0.49 0.49 0.49 0.49 0.49 0.49	45	45	45	47	47 45 52 0.640 ug/l l PREM EI12129-21 052 104 36 45 52 0.0700 ug/l l PREM EI12129-21 105 117 19.7 32 52 0.600 ug/l l PREM EI12129-21 57 66.2 29.9 ND<5.2 U 5.2 0.500 ug/l l PREM EI12129-21 134 139 48 63 5.2 0.510 ug/l l PREM EI12129-21 124 139 48 63 S.2 0.400 ug/l l PREM EI12129-21 131 143 58.6 ND<5.2 U 5.2 0.430 ug/l l PREM EI12129-21 131 143 58.6 ND<5.2 U 5.2 0.430 ug/l l PREM EI12129-21 131 143 58.6 ND<5.2 U 5.2 0.430 ug/l l PREM EI12129-21 131 143 58.6 ND<5.2 U 5.2 0.420 ug/l l PREM EI12129-21 20.5 23.4 5.2 ND<2.6 U 2.6 0.550 ug/l l PREM EI12129-21 21.3 23.7 10 ND<5.2 U 5.2 0.420 ug/l l PREM EI12129-21 21.3 23.7 10 ND<5.2 U 5.2 0.730 ug/l l PREM EI12129-21 21.3 23.7 10 ND<5.2 U 5.2 0.730 ug/l l PREM EI12129-21 21.3 23.7 10 ND<5.2 U 5.2 0.730 ug/l l PREM EI12129-21 21.3 23.7 10 ND<5.2 U 5.2 0.730 ug/l l PREM EI12129-21 21.3 23.7 10 ND<5.2 U 5.2 0.730 ug/l l PREM EI12129-21 21.3 23.7 10 ND<5.2 U 5.2 0.730 ug/l l PREM EI12129-21 21.3 23.7 10 ND<5.2 U 5.2 0.730 ug/l l PREM EI12129-21 21.3 23.7 10 ND<5.2 U 5.2 0.730 ug/l l PREM EI12129-21 21.3 23.7 10 ND<5.2 U 5.2 0.730 ug/l l PREM EI12129-21 21.3 23.7 10 ND<5.2 U 5.2 0.540 ug/l l PREM EI12129-21 21.3 23.7 10 ND<5.2 U 5.2 0.540 ug/l l PREM EI12129-21 21.3 23.7 10 ND<5.2 U 5.2 0.540 ug/l l PREM EI12129-21 21.3 23.7 10 ND<6.0 0.440 ug/l l PREM EI12129-21 21.3 23.7 10 ND<6.0 0.440 ug/l l PREM EI12129-21 21.3 23.7 10 ND<6.0 0.440 ug/l l PREM EI12129-21 39.8 44 20.9 24.7 24.8 88.1 0 ND<6.0 0.440 ug/l l PREM EI12129-21 39.8 44 20.9 24.7 24.8 88.1 0 ND<6.0 0.440 ug/l l PREM EI12129-21 39.8 44 20.9 24.7 22.0 560 ug/l l PREM EI12129-21 39.8 44 20.9 24.7 22.0 560 ug/l l PREM EI12129-21 39.8 44 20.9 24.7 22.0 560 ug/l l PREM EI12129-21 39.8 44 20.9 24.7 22.0 560 ug/l l PREM EI12129-21 39.8 44 20.9 24.7 22.0 560 ug/l l PREM EI12129-21 39.8 36.5 13.1 36.5 13.1 36.5 20.400 ug/l l PREM EI12129-21 39.8 36.5 13.1 36.5 13.1 39.8 30.0 5.2 0.400 ug/l l PREM EI12129-21 57.6 70.1 27.2 23.3 20.0 0.0 0g/l l PREM EI12129-21 58.6 74.6 15.3 30.0 5.2 0.400 ug/l l PREM EI12129-21 58.6 74.6



											_	_
Page 17										Loureir	o Enginee	ring Associate
Hexachlorobutadiene	63		5.2	0.320	ug/l	1	PREM	E112129-21	166	170	57.6	Pass
Hexachlorocyclopentadiene	ND<5.2	U	5.2	0.250	ug/l	l	PREM	E112129-21				
Hexachloroethane	ND<5.2	U	5.2	0.270	ug/l	I	PREM	E112129-21				
Indeno(1,2,3-c,d)pyrene	23		5.2	0.400	ug/l	1	PREM	E112129-21	37.8	43.3	14.2	Pass
Isophorone	74		5.2	0.440	ug/l	ŀ	PREM	E112129-21	139	162	70	Pass
Naphthalene	60		5.2	0.390	ug/l	1	PREM	E112129-21	140	158	58.6	Pass
Naphthalene	60		5.2	0.390	ug/l	1	PREM	E112129-21	140	158	58.6	Pass
Nitrobenzene	28		5.2	0.380	ug/l	1	PREM	E112129-21	56.8	64.8	28.6	FAIL
Pentachlorophenol	66		5.2	0.380	ug/l	1	PREM	E112129-21	128	153	58	Pass
Phenanthrene	28		5.2	0.560	ug/l	1	PREM	E112129-21	53.5	60.7	32.6	FAIL
Phenol	9.4		5.2	0.360	ug/l	1	PREM	E112129-21	41.2	46.4	0	Pass
Pyrene	19		5.2	0.390	ug/l	1	PREM	E112129-21	35.4	45.2	18.2	Pass
bis(2-Chloroethoxy) Methane	18		5.2	0.460	ug/l	1	PREM	E112129-21	47.2	50.8	24.9	FAIL
bis(2-Chloroethyl) ether (2-Chloroethyl	ND<5.2	U	5.2	0.350	ug/l	1	PREM	E112129-21				
bis(2-Chloroisopropyl) ether	14		10	0.310	ug/l	i	PREM	E112129-21	33.4	35	14	
bis(2-Ethylhexyl) Phthalate	60		5.2	1.77	ug/l	1	PREM	E112129-21	121	151	45.8	Pass
di-n-Butyl Phthalate	20		5.2	1.14	ug/l	1	PREM	E112129-21	37.6	47.8	20.7	FAIL
li-n-Octylphthalate	ND<5.2	U	5.2	0.500	ug/l	1	PREM	E112129-21				
n-Nitrosodi-n-Propylamine	70		5.2	0.580	ug/l	1	PREM	E112129-21	131	149	62.4	Pass
n-Nitrosodiphenylamine	ND<5.2	U	5.2	0.640	ug/l	1	PREM	E112129-21				
anation Identificate WT AC 02 021												
Sample Identifier 2001462 Chemical Name	12/05/2001 13:2 Reported Concentration 84	21 Per Qualifiers	forman R.L. 2.0	ce Eval M.D.L. 0.750	Units	Dil.	Lab.	Lab. Number E112129-22	Reference	Upper Limit	Lower Lim	it Result
Sample Identifier 2001462 Chemical Name Total Petroleum Hydrocarbons EPA 418.1	Reported Concentration		R.L.	M.D.L.		Dil.	Lab.					
Sample Identifier 2001462 Chemical Name Fotal Petroleum Hydrocarbons EPA 418.1	Reported Concentration	Qualifiers	R.L. 2.0	M.D.L.	Units mg/L	Dil. 5	Lab. PREM					
Sample Identifier 2001462 Chemical Name Total Petroleum Hydrocarbons EPA 418.1  ocation Identifier: WT-AC-03-032 Sample Identifier 2001463	Reported Concentration 84	Qualifiers	R.L. 2.0	M.D.L. 0.750	Units mg/L uation -	Dil. 5	Lab. PREM				41.7	Pass
Sample Identifier 2001462 Chemical Name Total Petroleum Hydrocarbons EPA 418.1 Cocation Identifier: WT-AC-03-032 Sample Identifier 2001463 Chemical Name	Reported Concentration 84  12/05/2001 13:2 Reported	Qualifiers 25 Per	R.L. 2.0	M.D.L. 0.750 ce Eval	Units mg/L  uation -	Dil. 5 Wate	Lab. PREM	E112129-22	69.5	86.9	41.7	Pass
Sample Identifier 2001462 Chemical Name Cotal Petroleum Hydrocarbons EPA 418.1 Cocation Identifier: WT-AC-03-032 Sample Identifier 2001463 Chemical Name 1,1,1-Trichloroethane	Reported Concentration 84  12/05/2001 13:2 Reported Concentration	Qualifiers 25 Per	R.L. 2.0 forman R.L.	M.D.L. 0.750 ce Eval M.D.L.	Units mg/L  uation -  Units ug/l	Dil. 5 Wate Dil.	Lab. PREM er Lab. PREM	E112129-22  Lab. Number	Reference	86.9 Upper Limit	41.7	Pass it Result
Sample Identifier 2001462 Chemical Name  Total Petroleum Hydrocarbons EPA 418.1  Ocation Identifier: WT-AC-03-032 Sample Identifier 2001463 Chemical Name  ,1,1-Trichloroethane ,1,2,2-Tetrachloroethane	Reported Concentration 84  12/05/2001 13:2 Reported Concentration 47	Qualifiers 25 Per	R.L. 2.0 forman R.L. 5.0	M.D.L. 0.750 ce Eval M.D.L. 0.184	Units mg/L  uation -  Units ug/l ug/l	Dil. 5 Wate Dil. 1	Lab. PREM Er Lab. PREM PREM PREM	E112129-22  Lab. Number E112129-23	Reference	Upper Limit 47.8	Lower Lim 30.1	Pass  it Result
Sample Identifier 2001462 Chemical Name  Total Petroleum Hydrocarbons EPA 418.1  Ocation Identifier: WT-AC-03-032 Sample Identifier 2001463 Chemical Name  1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane 1,2-Trichloroethane	Reported Concentration 84  12/05/2001 13:2 Reported Concentration 47 150 ND<5.0	Qualifiers 25 Per Qualifiers	R.L. 2.0 forman R.L. 5.0 5.0 5.0	M.D.L. 0.750 ce Eval M.D.L. 0.184 0.243	Units mg/L  uation -  Units  ug/l ug/l	Dil. 5 Water Dil. 1	Lab. PREM Lab. PREM PREM PREM PREM	E112129-22  Lab. Number E112129-23 E112129-23 E112129-23	Reference	Upper Limit 47.8	Lower Lim 30.1	Pass  it Result
Sample Identifier 2001462 Chemical Name  Total Petroleum Hydrocarbons EPA 418.1  ocation Identifier: WT-AC-03-032 Sample Identifier 2001463 Chemical Name  1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane	Reported Concentration 84  12/05/2001 13:2 Reported Concentration 47 150	Qualifiers 25 Per Qualifiers	R.L. 2.0 forman R.L. 5.0 5.0	M.D.L. 0.750 ce Eval M.D.L. 0.184 0.243 0.175	Units mg/L  uation -  Units ug/l ug/l ug/l	Dil. 5 Wate Dil. 1 1	Lab. PREM  Lab.  PREM PREM PREM PREM PREM PREM	E112129-22  Lab. Number E112129-23 E112129-23	Reference	Upper Limit 47.8	Lower Lim 30.1	Pass  it Result
Sample Identifier 2001462 Chemical Name Total Petroleum Hydrocarbons EPA 418.1  ocation Identifier: WT-AC-03-032 Sample Identifier 2001463 Chemical Name 1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethane	Reported Concentration 84  12/05/2001 13:2 Reported Concentration 47 150 ND<5.0 ND<5.0 ND<5.0	Qualifiers  25 Per  Qualifiers  U  U	R.L. 2.0 forman R.L. 5.0 5.0 5.0 5.0 5.0	M.D.L. 0.750 ce Eval M.D.L. 0.184 0.243 0.175 0.228 0.274	Units mg/L  uation -  Units ug/l ug/l ug/l ug/l ug/l	Dil. 5 Wate Dil. 1	Lab. PREM  Lab.  PREM PREM PREM PREM PREM PREM PREM PRE	E112129-22  Lab. Number  E112129-23  E112129-23  E112129-23  E112129-23  E112129-23	Reference 39.6	86.9 Upper Limit 47.8 168	Lower Lim 30.1 96.2	Pass it Result Pass Pass
Chemical Name  Total Petroleum Hydrocarbons EPA 418.1  ocation Identifier: WT-AC-03-032	Reported Concentration 84  12/05/2001 13:2 Reported Concentration 47 150 ND<5.0 ND<5.0	Qualifiers  25 Per  Qualifiers  U  U	R.L. 2.0 forman R.L. 5.0 5.0 5.0 5.0	M.D.L. 0.750 ce Eval M.D.L. 0.184 0.243 0.175 0.228	Units mg/L  uation -  Units ug/l ug/l ug/l	Dil. 5  Water Dil. 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Lab. PREM  Lab.  PREM PREM PREM PREM PREM PREM PREM PRE	E112129-22  Lab. Number  E112129-23  E112129-23  E112129-23  E112129-23	Reference	Upper Limit 47.8	Lower Lim 30.1	Pass  it Result



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Acetone	ND<20	U	20	2.65	ug/l	1	PREM	E112129-23				-
Benzene	36		5.0	0.184	ug/l	I	PREM	E112129-23	30.1	36.1	24.4	Pass
Bromodichloromethane	62		5.0	0.172	ug/l	1	PREM	E112129-23	55.3	66.5	44.7	Pass
Bromoform	66		5.0	0.127	ug/l	1	PREM	E112129-23	66.4	82.9	51.5	Pass
Bromomethane	ND<5.0	U	5.0	0.167	ug/l	1	PREM	E112129-23				
Carbon Disulfide	ND<5.0	U	5.0	0.498	ug/l	1	PREM	E112129-23				
Carbon Tetrachloride	42		5.0	0.228	ug/l	1	PREM	E112129-23	33.9	43.4	25.5	Pass
Chlorobenzene	16		5.0	0.157	ug/l	1	PREM	E112129-23	14.4	16.9	12.0	Pass
Chloroethane	ND<5.0	U	5.0	0.525	ug/l	1	PREM	E112129-23				
Chloroform	16		5.0	0.226	ug/l	1	PREM	E112129-23	13.8	16.6	11.2	Pass
Chloromethane	ND<5.0	U	5.0	0.148	ug/l	1	PREM	E112129-23				
Dibromochloromethane	48		5.0	0.156	ug/l	1	PREM	E112129-23	43.5	52.9	33.6	Pass
Ethylbenzene	30		5.0	0.176	ug/l	1	PREM	E112129-23	27.1	32.4	21.1	Pass
Methyl Ethyl ketone (2-Butanone)	ND<10	U	10	1.94	ug/l	1	PREM	E112129-23				
Methyl Isobutyl ketone (4-Methyl-2-Penta	53		10	1.89	ug/l	1	PREM	E112129-23	59.8	75.9	35.1	Pass
Methylene Chloride	34		5.0	0.789	ug/i	1	PREM	E112129-23	27.8	35.2	21.1	Pass
Styrene	ND<5.0	U	5.0	0.170	ug/l	1		E112129-23				
Tetrachloroethylene (PCE)	61		5.0	0.171	ug/l	I		E112129-23	50.3	59.3	38.5	FAIL
Toluene	45		5.0	0.188	ug/l	1		E112129-23	40.2	46.7	32.4	Pass
Trichloroethylene (TCE)	30		5.0	0.220	ug/l	1		E112129-23	24.8	29.5	18.9	FAIL
Vinyl Chloride	ND<5.0	U	5.0	0.111	ug/l	1		E112129-23				
cis-1,3-Dichloropropene	ND<5.0	U	5.0	0.139	ug/l	1		E112129-23				
m,p-Xylene (Sum of Isomers)	ND<5.0	U	5.0	0.424	ug/l	1		E112129-23				
o-Xylene (1,2-Dimethylbenzene)	ND<5.0	U	5.0	0.171	ug/l	1		E112129-23				
trans-1,3-Dichloropropene	ND<5.0	U	5.0	0.0680	ug/l	1	PREM	E112129-23	_			
Location Identifier: WT-AC-03-033 Sample Identifier 2001475	12/07/2001 13:0	00 Pe	rformar	nce Evalı	uation	- Wat	er					
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limi	t Result
PCB-1016 (Arochlor 1016)	ND<0.42	U	0.42	0.120	ug/l	1	PREM	E112249-12				
PCB-1221 (Arochlor 1221)	ND<0.42	U	0.42	0.120	ug/l	1	PREM	E112249-12				
PCB-1232 (Arochlor 1232)	ND<0.42	U	0.42	0.120	ug/l	1	PREM	E112249-12				
PCB-1242 (Arochlor 1242)	ND<0.42	U	0.42	0.120	ug/l	1	PREM	E112249-12				
PCB-1248 (Arochlor 1248)	ND<0.42	U	0.42	0.120	ug/l	i		E112249-12				
PCB-1254 (Arochlor 1254)	6.7		0.42	0.120	ug/l	1		E112249-12	8.14	10.7	4.17	Pass
PCB-1260 (Arochlor 1260)	ND<0.42	U	0.42	0.120	ug/l	1		E112249-12				
122 1200 (12001101 1200)		•			6 -	-						



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Loureiro Engineering Associates, Inc.

Location Identifier: was Sample Identifier	/T-AC-03-034 2001476	12/07/2001 13:0	3 Per	forman	ce Evalı	ıation -	Wate	er						
Chemical Name		Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Lir	nit	Result
Arsenic		0.40		0.010	0	mg/L	1	PREM	E112249-13	0.421	0.482	0.360	Pass	
Barium		1.0		0.010	0.00068		1	PREM	E112249-13	1.010	1.110	0.898	Pass	
Cadmium		0.53			0.00032	_	1	PREM	E112249-13	0.580	0.647	0.512	Pass	
Chromium, Total		0.32		0.010	0.00074	0 mg/L	1	PREM	E112249-13	0.320	0.355	0.286	Pass	
Copper		0.49		0.010	0.00087	0 mg/L	1	PREM	E112249-13	0.509	0.565	0.452	Pass	
Lead		0.27		0.0040	0.00175	mg/L	Ţ	PREM	E112249-13	0.275	0.308	0.241	Pass	
Mercury		0.0022		0.0002	2(0.00002	2 mg/L	1	PREM	E112249-13	0.00292	0.00365	0.00218	Pass	
Nickel		0.76		0.010	0.00108	mg/L	l	PREM	E112249-13	0.778	0.860	0.695	Pass	
Selenium		0.58		0.010	0.00460	mg/L	1	PREM	E112249-13	0.616	0.707	0.524	Pass	
Silver		0.28		0.0020	0.00627	mg/L	I	PREM	E112249-13	0.286	0.320	0.251	Pass	
Zinc		0.38		0.010	0.00198	mg/L	1	PREM	E112249-13,	0.398	0.448	0.349	Pass	
Chemical Name		Reported Concentration	Qualifiers	R.L.	M.D.L.		Dil.	Lab.	Lab. Number	Reference		Lower Lir	nit	Resul
		•	Qualifiers	R.L. 0.050	M.D.L.		Dil.		Lab. Number E112249-14	Reference	Upper Limit	Lower Lir	nit Pass	Result
Cyanide	VT-AC-03-036	Concentration	Qualifiers		M.D.L.									Result
Cyanide	VT-AC-03-036 2001478	Concentration 0.87	·	0.050	M.D.L.	mg/L	5	PREM						Result
Cyanide ocation Identifier: W Sample Identifier		Concentration 0.87	·	0.050		mg/L nation -	5	PREM				0.600	Pass	
Cyanide  Location Identifier: W  Sample Identifier		Concentration 0.87  12/07/2001 13:0  Reported Concentration 71	06 Per	0.050 forman R.L. 5.0	ce Evalument   M.D.L.  0.330	mg/L nation -	5 Wate	PREM er Lab. PREM	E112249-14  Lab. Number E112249-15	0.862	Upper Limit	0.600	Pass	
Cyanide  Location Identifier: W Sample Identifier  Chemical Name  1,2,4-Trichlorobenzene		Concentration 0.87  12/07/2001 13:0  Reported Concentration	06 Per	0.050  forman R.L.	ce Evalu	mg/L uation - Units	Water Dil.	PREM er Lab. PREM	E112249-14  Lab. Number	0.862	1.11 Upper Limit	0.600 Lower Lir	Pass	
Cyanide  Location Identifier: W Sample Identifier  Chemical Name		Concentration 0.87  12/07/2001 13:0  Reported Concentration 71	06 Per Qualifiers U	0.050 forman R.L. 5.0 5.0 5.0	ce Evalument   M.D.L.  0.330	mg/L  uation -  Units  ug/l	Water Dil.	PREM Lab. PREM PREM	E112249-14  Lab. Number E112249-15	Reference	Upper Limit	0.600 Lower Lir 49.5	Pass mit Pass	
Cyanide  Location Identifier: W Sample Identifier  Chemical Name  1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene		Concentration 0.87  12/07/2001 13:0  Reported Concentration 71 24 ND<5.0 ND<5.0	6 Per Qualifiers	0.050 forman R.L. 5.0 5.0	M.D.L.  0.330 0.400	mg/L  uation -  Units  ug/l  ug/l  ug/l  ug/l	Water Dil.	PREM Lab. PREM PREM PREM PREM PREM	E112249-14  Lab. Number  E112249-15  E112249-15  E112249-15  E112249-15	Reference	Upper Limit	0.600 Lower Lir 49.5	Pass mit Pass	
Cyanide  Location Identifier: W Sample Identifier  Chemical Name  1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol		Concentration 0.87  12/07/2001 13:0  Reported Concentration 71 24 ND<5.0 ND<5.0 60	06 Per Qualifiers U	0.050 forman R.L. 5.0 5.0 5.0 5.0 5.0 5.0	M.D.L.  0.330 0.400 0.310 0.300 0.550	mg/L  Units  ug/l  ug/l  ug/l  ug/l  ug/l	Water Dil.	PREM PREM PREM PREM PREM PREM PREM PREM	E112249-14  Lab. Number  E112249-15  E112249-15  E112249-15  E112249-15  E112249-15	Reference	Upper Limit	0.600 Lower Lir 49.5	Pass mit Pass	Result
Cyanide  Cocation Identifier: W Sample Identifier  Chemical Name  1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol		Concentration 0.87  12/07/2001 13:0  Reported Concentration 71 24 ND<5.0 ND<5.0 60 56	06 Per Qualifiers U	0.050 forman R.L. 5.0 5.0 5.0 5.0 5.0 5.0	M.D.L.  0.330 0.400 0.310 0.300 0.550 0.420	mg/L  Units  ug/l ug/l ug/l ug/l ug/l ug/l	Water Dil.	PREM PREM PREM PREM PREM PREM PREM PREM	E112249-14  Lab. Number  E112249-15  E112249-15  E112249-15  E112249-15  E112249-15	0.862  Reference 112 30.8	Upper Limit 118 33.3	0.600 Lower Lir 49.5	Pass mit Pass Pass	
Cyanide  Cocation Identifier: Wasample Identifier  Chemical Name  1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol		Concentration 0.87  12/07/2001 13:0  Reported Concentration 71 24 ND<5.0 ND<5.0 60 56 39	06 Per Qualifiers U	0.050 R.L. 5.0 5.0 5.0 5.0 5.0 5.0 5.0	M.D.L.  0.330 0.400 0.310 0.300 0.550 0.420 0.380	mg/L  Units  ug/l ug/l ug/l ug/l ug/l ug/l ug/l	Water Dil.	PREM PREM PREM PREM PREM PREM PREM PREM	E112249-14  Lab. Number  E112249-15  E112249-15  E112249-15  E112249-15  E112249-15  E112249-15	Reference 112 30.8	Upper Limit 118 33.3	0.600 Lower Lir 49.5 0	Pass mit Pass Pass Pass	
Cyanide  .ocation Identifier: W Sample Identifier  Chemical Name  1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol		Concentration 0.87  12/07/2001 13:0  Reported Concentration 71 24 ND<5.0 ND<5.0 60 56 39 72	06 Per Qualifiers U	0.050 R.L. 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.	M.D.L.  0.330 0.400 0.310 0.300 0.550 0.420	mg/L  Units  ug/l ug/l ug/l ug/l ug/l ug/l	Water Dil.	PREM PREM PREM PREM PREM PREM PREM PREM	E112249-14  Lab. Number  E112249-15  E112249-15  E112249-15  E112249-15  E112249-15	Reference 112 30.8 83.8 76.1	Upper Limit 118 33.3 94.2 87.8	0.600 Lower Lir 49.5 0	Pass mit Pass Pass Pass Pass	
Cyanide  .ocation Identifier: W Sample Identifier  Chemical Name  1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dimitrophenol		Concentration 0.87  12/07/2001 13:0  Reported Concentration 71 24 ND<5.0 ND<5.0 60 56 39 72 100	06 Per Qualifiers U	0.050 R.L. 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.	M.D.L.  0.330 0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700	mg/L  Units  ug/l ug/l ug/l ug/l ug/l ug/l ug/l	5 Water Dil. 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E112249-14  Lab. Number  E112249-15  E112249-15  E112249-15  E112249-15  E112249-15  E112249-15	Reference 112 30.8 83.8 76.1 49.0	Upper Limit 118 33.3 94.2 87.8 53.9	0.600 Lower Lir 49.5 0 46.0 38.1 25.0	Pass mit Pass Pass Pass Pass Pass Pass	
Cyanide  Location Identifier: Wannel Sample Identifier  Chemical Name  1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dimitrophenol 2,4-Dinitrophenol 2,4-Dinitrotoluene		Concentration 0.87  12/07/2001 13:0  Reported Concentration 71 24 ND<5.0 ND<5.0 60 56 39 72 100 40	06 Per Qualifiers U	0.050 R.L. 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.	M.D.L.  0.330 0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700 0.600	mg/L  Units  ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/	5 Water Dil. 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E112249-14  Lab. Number  E112249-15  E112249-15  E112249-15  E112249-15  E112249-15  E112249-15  E112249-15  E112249-15  E112249-15  E112249-15	Reference 112 30.8 83.8 76.1 49.0 113	Upper Limit 118 33.3  94.2 87.8 53.9 128 155	0.600 Lower Lir 49.5 0 46.0 38.1 25.0 44.8	Pass  Pass Pass Pass Pass Pass Pass Pas	
Cyanide  Location Identifier: Wannel Sample Identifier  Chemical Name  1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dimitrophenol		Concentration 0.87  12/07/2001 13:0  Reported Concentration 71 24 ND<5.0 ND<5.0 60 56 39 72 100	06 Per Qualifiers U	0.050 R.L. 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.	M.D.L.  0.330 0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700	mg/L  Units  ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/	5 Water Dil. 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E112249-14  Lab. Number  E112249-15  E112249-15  E112249-15  E112249-15  E112249-15  E112249-15  E112249-15  E112249-15	Reference 112 30.8 83.8 76.1 49.0 113 145	Upper Limit 118 33.3  94.2 87.8 53.9 128 155	0.600 Lower Lir 49.5 0 46.0 38.1 25.0 44.8 25.0	Pass Pass Pass Pass Pass Pass Pass Pass	



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1 age 20										Loure	eiro Engin <del>e</del> e	ring Associates, Inc.
2-Chlorophenol	100		5.0	0.400	ug/l	1		112249-15	170	185	75.3	Pass
2-Methylnaphthalene	ND<5.0	U	5.0	0.430	ug/l	1		112249-15				
2-Methylphenol (o-Cresol)	45		5.0	0.420	ug/l	1	PREM E	112249-15	71.4	92.3	17.1	Pass
2-Nitroaniline	ND<25	U	25	0.550	ug/l	1	PREM E	112249-15				
2-Nitrophenol	25		5.0	0.420	ug/l	1	PREM E	112249-15	29.4	33.0	14.4	Pass
3,3'-Dichlorobenzidine	ND<5.0	U	5.0	0.730	ug/l	1	PREM E	112249-15				
3-Nitroaniline	ND<25	U	25	0.440	ug/l	1	PREM E	112249-15				
4,6-Dinitro-2-Methylphenol	71		5.0		ug/l	1	PREM E	112249-15	72.8	82.5	29.7	Pass
4-Bromophenyl Phenyl ether	140		5.0	0.530	ug/l	1	PREM E	112249-15	177	201	99.4	Pass
4-Chloro-3-Methylphenol	ND<5.0	U	5.0	0.440	ug/l	1	PREM E	112249-15				
4-Chloroaniline	ND<10	U	10	0.410	ug/l	1	PREM E	112249-15				
4-Chlorophenyl Phenyl ether	ND<5.0	U	5.0	0.540	ug/l	1	PREM E	112249-15				
4-Nitroaniline	ND<10	U	10	0.480	ug/l	l	PREM E	112249-15				
4-Nitrophenol	25		5.0	0.290	ug/l	1	PREM E	112249-15	60.3	69.5	0	Pass
Acenaphthene	40		5.0	0.450	ug/l	1	PREM E	112249-15	55.6	62.8	29.8	Pass
Acenaphthylene	ND<5.0	U	5.0	0.470	ug/l	1	PREM E	112249-15				
Anthracene	190		5.0	0.560	ug/l	1	PREM E	112249-15	172	194	84.2	Pass
Benzo(a)anthracene	ND<5.0	U	5.0	0.420	ug/l	1	PREM E	112249-15				
Benzo(a)pyrene	24		5.0	0.350	ug/l	1	PREM E	112249-15	24.7	28.2	11.6	Pass
Benzo(b)fluoranthene	ND<5.0	U	5.0	0.400	ug/l	1	PREM E	112249-15				
Benzo(g,h,i)perylene	ND<5.0	U	5.0	0.420	ug/l	1	PREM E	112249-15				
Benzo(k)fluoranthene	23		5.0	0.360	ug/l	1	PREM E	112249-15	23.9	32.8	10.5	Pass
Benzyl Butyl Phthalate	52		5.0	0.460	ug/l	1	PREM E	112249-15	65.9	87.2	15.3	Pass
Carbazole	ND<5.0	U	5.0		ug/l	1	PREM E	112249-15				
Chrysene	42		5.0	0.440	ug/l	1	PREM E	112249-15	46.4	53.5	26.6	Pass
Cresol,m- & p-	ND<5.0	U	5.0	0.740	ug/l	1	PREM E	112249-15				
Dibenz(a,h)anthracene	ND<5.0	U	5.0	0.370	ug/l	1	PREM E	112249-15				
Dibenzofuran	50		10	0.480	ug/l	1	PREM E	112249-15	71.8	93.5	23.9	Pass
Diethyl Phthalate	ND<5.0	U	5.0	0.660	ug/l	1	PREM E	112249-15				
Dimethyl Phthalate	47		5.0	0.600	ug/l	i	PREM E	112249-15	61.4	78.0	14.9	Pass
Fluoranthene	13		5.0	0.480	ug/l	I	PREM E	112249-15	13.9	15.9	10.4	Pass
Fluorene	42		5.0	0.540	ug/l	1	PREM E	112249-15	42.9	49.5	24.4	Pass
Hexachlorobenzene	32		5.0	0.550	ug/l	1	PREM E	112249-15	38.1	44.0	22.1	Pass
Hexachlorobutadiene	ND<5.0	U	5.0	0.320	ug/l	1	PREM E	112249-15				
Hexachlorocyclopentadiene	ND<5.0	U	5.0	0.250	ug/l	l	PREM E	112249-15				
Hexachloroethane	50		5.0	0.270	ug/l	1	PREM E	112249-15	72.9	77.5	21.7	Pass
Indeno(1,2,3-c,d)pyrene	ND<5.0	U	5.0	0.400	ug/l	1	PREM E	112249-15				
Isophorone	47		5.0	0.440	ug/l	1	PREM E	112249-15	55.8	64.6	. 29.9	Pass
Naphthalene	70		5.0	0.390	ug/l	l	PREM E	112249-15	90.2	102	39.2	Pass
Nitrobenzene	54		5.0	0.380	ug/l	1	PREM E1	112249-15	73.9	84.4	36.7	Pass



Page 21										Loureir	o Enginee	ring As	sociates, I
Pentachlorophenol	52		5.0	0.380	ug/l	1	PREM	E112249-15	57.8	68.6	23.3	Pass	
Phenanthrene	70		5.0	0.560	ug/l	1	PREM	E112249-15	77.3	88.5	43.0	Pass	
Phenol	10		5.0	0.360	ug/l	I	PREM	E112249-15	26.6	30.9	0	Pass	
Pyrene	17		5.0	0.390	ug/l	1	PREM	E112249-15	19.0	26.5	10.0	Pass	
bis(2-Chloroethoxy) Methane	ND<5.0	U	5.0	0.460	ug/l	1	PREM	E112249-15					
bis(2-Chloroethyl) ether (2-Chloroethyl	ND<5.0	U	5.0	0.350	ug/l	1	PREM	E112249-15					
bis(2-Chloroisopropyl) ether	82		10	0.310	ug/l	1	PREM	E112249-15	131	151	32.3	Pass	
bis(2-Ethylhexyl) Phthalate	69		5.0	1.77	ug/l	i	PREM	E112249-15	98.2	123	39.4	Pass	
di-n-Butyl Phthalate	ND<5.0	U	5.0	1.14	ug/l	1	PREM	E112249-15					
di-n-Octylphthalate	40		5.0	0.500	ug/l	1	PREM	E112249-15	44.6	57.4	19.5	Pass	
n-Nitrosodi-n-Propylamine	ND<5.0	U	5.0	0.580	ug/l	1	PREM	E112249-15					
n-Nitrosodiphenylamine	37		5.0	0.640	ug/l	1	PREM	E112249-15	41.6	50.9	17.6	Pass	
Location Identifier: WT-AC-03-037													
Sample Identifier 2001479	12/07/2001 13:0	)8 Per	forman	ce Eval	uation	- Wat	er						
	D					n.,	Lab.	Lab. Number	D . C	I Imman I imais	T T !	.:.	Result
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lao.	Lab. Number	Reference	Upper Limit	Lower Lin	11L	Result
Chemical Name  Total Petroleum Hydrocarbons EPA 418.1  Location Identifier: WT-AC-03-038	Concentration 91		2.0	0.750	mg/L	5	PREM	E112249-16	82.1	103	49.3	Pass	Result
Total Petroleum Hydrocarbons EPA 418.1  Location Identifier: WT-AC-03-038  Sample Identifier 2001480	Concentration	0 Per	2.0 forman	0.750 ce Evalu	mg/L uation	5 - Wat	PREM	E112249-16	82.1	103	49.3	Pass	
Total Petroleum Hydrocarbons EPA 418.1  Location Identifier: WT-AC-03-038  Sample Identifier 2001480	Concentration 91 12/07/2001 13:1		2.0	0.750 ce Evalu M.D.L.	mg/L uation	5	PREM er Lab.	E112249-16  Lab. Number		Upper Limit	49.3 Lower Lim	Pass	Result
Total Petroleum Hydrocarbons EPA 418.1  Location Identifier: WT-AC-03-038  Sample Identifier 2001480	Concentration 91  12/07/2001 13:1  Reported Concentration ND<250	0 Per	2.0 forman	0.750 ce Evalu	mg/L uation	5 - Wate Dil. 50	PREM er Lab. PREM	E112249-16  Lab. Number E112249-17	82.1	Upper Limit 79.0	49.3	Pass	
Total Petroleum Hydrocarbons EPA 418.1  Location Identifier: WT-AC-03-038  Sample Identifier 2001480  Chemical Name  1,1,1-Trichloroethane	Concentration 91  12/07/2001 13:1  Reported Concentration	0 Per	2.0 forman R.L.	0.750 ce Evalu M.D.L.	mg/L uation	5 - Wate Dil.	PREM er Lab. PREM	E112249-16  Lab. Number	Reference	Upper Limit	49.3 Lower Lim	Pass	
Total Petroleum Hydrocarbons EPA 418.1  Location Identifier: WT-AC-03-038  Sample Identifier 2001480  Chemical Name	Concentration 91  12/07/2001 13:1  Reported Concentration ND<250	0 Per Qualifiers U U U	2.0 forman R.L. 250	0.750 ce Evalu M.D.L. 9.20	mg/L uation Units ug/l	5 - Wate Dil. 50	PREM Lab. PREM PREM	E112249-16  Lab. Number E112249-17	Reference	Upper Limit 79.0	49.3 Lower Lim	Pass	
Total Petroleum Hydrocarbons EPA 418.1  Location Identifier: WT-AC-03-038  Sample Identifier 2001480  Chemical Name  1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane	Concentration 91  12/07/2001 13:1  Reported Concentration ND<250 ND<250	0 Per Qualifiers U U	2.0 forman R.L. 250 250	0.750 ce Evalu M.D.L. 9.20 12.2	mg/L uation Units ug/l ug/l	5 - Wate Dil. 50 50	PREM  Lab.  PREM  PREM  PREM  PREM	E112249-16  Lab. Number E112249-17 E112249-17	Reference 65.4 34.6	Upper Limit 79.0 43.7	Lower Lim 49.5 24.6	Pass nit FAIL FAIL	
Total Petroleum Hydrocarbons EPA 418.1  Location Identifier: WT-AC-03-038  Sample Identifier 2001480  Chemical Name  1,1,1-Trichloroethane 1,1,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane	Concentration 91  12/07/2001 13:1  Reported Concentration ND<250 ND<250 ND<250	0 Per Qualifiers U U U	2.0 forman R.L. 250 250 250	0.750 ce Evalu M.D.L. 9.20 12.2 8.75	mg/L uation Units ug/l ug/l ug/l	5 - Wate Dil. 50 50	PREM Lab. PREM PREM PREM PREM PREM	E112249-16  Lab. Number E112249-17 E112249-17 E112249-17	Reference 65.4 34.6	Upper Limit 79.0 43.7	Lower Lim 49.5 24.6	Pass nit FAIL FAIL	
Total Petroleum Hydrocarbons EPA 418.1  _ocation Identifier: WT-AC-03-038	Concentration 91  12/07/2001 13:1  Reported Concentration ND<250 ND<250 ND<250 ND<250 ND<250	Qualifiers U U U U	2.0 forman R.L. 250 250 250 250	0.750 ce Evalu M.D.L. 9.20 12.2 8.75 11.4	uation - Units  ug/l ug/l ug/l ug/l	50 50 50 50 50	PREM Lab. PREM PREM PREM PREM PREM PREM PREM	E112249-16  Lab. Number E112249-17 E112249-17 E112249-17 E112249-17	Reference 65.4 34.6	Upper Limit 79.0 43.7 89.0	49.3 Lower Lim 49.5 24.6 58.4	Pass  FAIL FAIL FAIL FAIL	
Total Petroleum Hydrocarbons EPA 418.1  Location Identifier: WT-AC-03-038  Sample Identifier 2001480  Chemical Name  1,1,1-Trichloroethane 1,1,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethane	Concentration 91  12/07/2001 13:1  Reported Concentration ND<250 ND<250 ND<250 ND<250 ND<250 ND<250 ND<250	Qualifiers  U U U U U	2.0 forman R.L. 250 250 250 250 250	0.750 ce Evalu M.D.L. 9.20 12.2 8.75 11.4 13.7	mg/L  Units  Ug/l  ug/l  ug/l  ug/l  ug/l	50 50 50 50 50 50	PREM Lab. PREM PREM PREM PREM PREM PREM PREM PREM	E112249-16  Lab. Number  E112249-17  E112249-17  E112249-17  E112249-17  E112249-17	Reference 65.4 34.6 74.4	Upper Limit 79.0 43.7 89.0	Lower Lim 49.5 24.6 58.4	Pass  FAIL FAIL FAIL	
Total Petroleum Hydrocarbons EPA 418.1  Location Identifier: WT-AC-03-038  Sample Identifier 2001480  Chemical Name  1,1,1-Trichloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethane 1,2-Dichloropropane	Concentration 91  12/07/2001 13:1  Reported Concentration ND<250 ND<250 ND<250 ND<250 ND<250 ND<250 ND<250 ND<250 ND<250	Qualifiers  U U U U U U U	2.0 forman R.L. 250 250 250 250 250 250 250	0.750 ce Evalu M.D.L. 9.20 12.2 8.75 11.4 13.7 14.4	mg/L uation Units ug/l ug/l ug/l ug/l ug/l ug/l	5 - Wate 50 50 50 50 50 50	PREM Lab. PREM PREM PREM PREM PREM PREM PREM PREM	E112249-16  Lab. Number  E112249-17  E112249-17  E112249-17  E112249-17  E112249-17  E112249-17	Reference 65.4 34.6 74.4	Upper Limit 79.0 43.7 89.0	49.3 Lower Lim 49.5 24.6 58.4	Pass  FAIL FAIL FAIL FAIL	
Total Petroleum Hydrocarbons EPA 418.1  Location Identifier: WT-AC-03-038  Sample Identifier 2001480  Chemical Name  1,1,1-Trichloroethane 1,1,2-Tetrachloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethane 1,2-Dichloropropane 2-Hexanone	Concentration 91  12/07/2001 13:1  Reported Concentration ND<250	Qualifiers  U U U U U U U U	2.0 forman R.L. 250 250 250 250 250 250 250 250	0.750 ce Evalu M.D.L. 9.20 12.2 8.75 11.4 13.7 14.4 11.7	mg/L uation Units ug/l ug/l ug/l ug/l ug/l ug/l ug/l	50 50 50 50 50 50 50 50	PREM PREM PREM PREM PREM PREM PREM PREM	E112249-16  Lab. Number  E112249-17  E112249-17  E112249-17  E112249-17  E112249-17  E112249-17  E112249-17	Reference 65.4 34.6 74.4	Upper Limit 79.0 43.7 89.0	49.3 Lower Lim 49.5 24.6 58.4	Pass  FAIL FAIL FAIL FAIL	
Total Petroleum Hydrocarbons EPA 418.1  Location Identifier: WT-AC-03-038  Sample Identifier 2001480  Chemical Name  1,1,1-Trichloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloropropane 2-Hexanone Acetone	Concentration 91  12/07/2001 13:1  Reported Concentration ND<250	Qualifiers  U U U U U U U U U	2.0 forman R.L. 250 250 250 250 250 250 250 250 250	0.750 ce Evalu M.D.L. 9.20 12.2 8.75 11.4 13.7 14.4 11.7 94.0	mg/L  uation -  ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/	50 50 50 50 50 50 50 50 50	PREM PREM PREM PREM PREM PREM PREM PREM	E112249-16  Lab. Number  E112249-17  E112249-17  E112249-17  E112249-17  E112249-17  E112249-17  E112249-17  E112249-17	Reference 65.4 34.6 74.4	Upper Limit 79.0 43.7 89.0	49.3 Lower Lim 49.5 24.6 58.4	Pass  FAIL FAIL FAIL FAIL	
Total Petroleum Hydrocarbons EPA 418.1  Location Identifier: WT-AC-03-038  Sample Identifier 2001480  Chemical Name  1,1,1-Trichloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloropropane 2-Hexanone Acetone Benzene	Concentration 91  12/07/2001 13:1  Reported Concentration ND<250 ND<200 ND<1000	Qualifiers  U U U U U U U U U	2.0 forman R.L. 250 250 250 250 250 250 250 250 250 250	0.750 ce Evalu M.D.L. 9.20 12.2 8.75 11.4 13.7 14.4 11.7 94.0 132	mg/L  uation -  ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/	5 Water Dil. 50 50 50 50 50 50 50 50 50 50 50 50 50	PREM PREM PREM PREM PREM PREM PREM PREM	E112249-16  Lab. Number E112249-17 E112249-17 E112249-17 E112249-17 E112249-17 E112249-17 E112249-17 E112249-17 E112249-17	Reference 65.4 34.6 74.4 26.8 101	Upper Limit 79.0 43.7 89.0	49.3 Lower Lim 49.5 24.6 58.4 21.6 78.1	Pass  FAIL FAIL FAIL FAIL	
Total Petroleum Hydrocarbons EPA 418.1  Location Identifier: WT-AC-03-038  Sample Identifier 2001480  Chemical Name  1,1,1-Trichloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloropropane 2-Hexanone Acetone Benzene Bromodichloromethane	Concentration 91  12/07/2001 13:1  Reported Concentration ND<250 ND<2500	Qualifiers  U  U  U  U  U  U  U  U  U  U  U  U  U	2.0 forman R.L. 250 250 250 250 250 250 250 250 250 250	0.750  ce Evalu  M.D.L.  9.20 12.2 8.75 11.4 13.7 14.4 11.7 94.0 132 9.20	mg/L  uation -  ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/	5 Water Dil. 50 50 50 50 50 50 50 50 50 50 50 50 50	PREM PREM PREM PREM PREM PREM PREM PREM	E112249-16  Lab. Number  E112249-17	Reference 65.4 34.6 74.4 26.8 101	Upper Limit 79.0 43.7 89.0	49.3 Lower Lim 49.5 24.6 58.4 21.6 78.1	Pass  FAIL FAIL FAIL FAIL FAIL	
Total Petroleum Hydrocarbons EPA 418.1  Location Identifier: WT-AC-03-038 Sample Identifier 2001480  Chemical Name  1,1,1-Trichloroethane 1,1,2-Trichloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloropropane 2-Hexanone Acetone Benzene	Concentration 91  12/07/2001 13:1  Reported Concentration ND<250	Qualifiers  U U U U U U U U U U U U U	2.0 forman R.L. 250 250 250 250 250 250 250 1000 250 250 250	0.750  ce Evalu  M.D.L.  9.20 12.2 8.75 11.4 13.7 14.4 11.7 94.0 132 9.20 8.60	mg/L  uation  Units  ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/	5 Water Dil. 50 50 50 50 50 50 50 50 50 50 50 50 50	PREM PREM PREM PREM PREM PREM PREM PREM	E112249-16  Lab. Number  E112249-17	Reference 65.4 34.6 74.4 26.8 101 7.93 19.7	Upper Limit 79.0 43.7 89.0 33.2 118	Lower Lim 49.5 24.6 58.4 21.6 78.1 6.22 15.8	Pass  FAIL FAIL FAIL FAIL FAIL FAIL	
Total Petroleum Hydrocarbons EPA 418.1  Location Identifier: WT-AC-03-038 Sample Identifier 2001480  Chemical Name  1,1,1-Trichloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloropropane 2-Hexanone Acetone Benzene Bromodichloromethane Bromoform	Concentration 91  12/07/2001 13:1  Reported Concentration ND<250 ND<500 ND<1000 7800 ND<250 ND<250 ND<250 ND<250 ND<250 ND<250 ND<250 ND<250	Qualifiers  U U U U U U U U U U U U U U U U	2.0 forman R.L. 250 250 250 250 250 250 500 1000 250 250 250 250	0.750  ce Evalu  M.D.L.  9.20 12.2 8.75 11.4 13.7 14.4 11.7 94.0 132 9.20 8.60 6.35	mg/L  uation  Units  ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/	5 Water Dil. 50 50 50 50 50 50 50 50 50 50 50 50 50	PREM PREM PREM PREM PREM PREM PREM PREM	E112249-16  Lab. Number  E112249-17	Reference 65.4 34.6 74.4 26.8 101 7.93 19.7	Upper Limit 79.0 43.7 89.0 33.2 118	Lower Lim 49.5 24.6 58.4 21.6 78.1 6.22 15.8	Pass  FAIL FAIL FAIL FAIL FAIL FAIL	
Total Petroleum Hydrocarbons EPA 418.1  Location Identifier: WT-AC-03-038 Sample Identifier 2001480  Chemical Name  1,1,1-Trichloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloropropane 2-Hexanone Acetone Benzene Bromodichloromethane Bromoform Bromomethane	Concentration 91  12/07/2001 13:1  Reported Concentration ND<250 ND<250 ND<250 ND<250 ND<250 ND<250 ND<250 ND<250 ND<250 ND<500 ND<500 ND<1000 7800 ND<250	Qualifiers  U U U U U U U U U U U U U U U U U U	2.0  forman  R.L.  250  250  250  250  250  250  250  25	0.750  ce Evalu  M.D.L.  9.20 12.2 8.75 11.4 13.7 14.4 11.7 94.0 132 9.20 8.60 6.35 8.35	mg/L  uation  Units  ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/	5 Water Dil. 50 50 50 50 50 50 50 50 50 50 50 50 50	PREM PREM PREM PREM PREM PREM PREM PREM	E112249-16  Lab. Number E112249-17	Reference 65.4 34.6 74.4 26.8 101 7.93 19.7	Upper Limit 79.0 43.7 89.0 33.2 118	Lower Lim 49.5 24.6 58.4 21.6 78.1 6.22 15.8	Pass  FAIL FAIL FAIL FAIL FAIL FAIL	



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Page 22										Loureir	o Engineer	ing Ass	ociates, Inc.
Chloroethane	ND<250	U	250	26.2	ug/l	50	PREM	E112249-17					
Chloroform	ND<250	U	250	11.3	ug/l	50	PREM	E112249-17	38.5	45.7	30.6	FAIL	
Chloromethane	ND<250	U	250	7.40	ug/l	50	PREM	E112249-17				-	
Dibromochloromethane	ND<250	U	250	7.80	ug/l	50	PREM	E112249-17	15.1	18.3	11.6	FAIL	
Ethylbenzene	ND<250	U	250	8.80	ug/l	50	PREM	E112249-17	70.2	84.4	54.2	FAIL	
Methyl Ethyl ketone (2-Butanone)	ND<500	U	500	96.8	ug/l	50	PREM	E112249-17					
Methyl Isobutyl ketone (4-Methyl-2-Penta	ND<500	U	500	94.5	ug/l	50	PREM	E112249-17	73.1	99.3	44.9	FAIL	
Methylene Chloride	ND<250	U	250	39.4	ug/l	50	PREM	E112249-17	34.7	43.8	26.3	FAIL	
Styrene	ND<250	U	250	8.50	ug/l	50	PREM	E112249-17					
Tetrachloroethylene (PCE)	ND<250	U	250	8.55	ug/l	50	PREM	E112249-17	70.4	82.7	53.8	FAIL	
Toluene	ND<250	U	250	9.40	ug/l	50	PREM	E112249-17	30.5	35.6	24.5	FAIL	
Trichloroethylene (TCE)	ND<250	U	250	11.0	ug/l	50	PREM	E112249-17	34.6	41.1	26.2	FAIL	
Vinyl Chloride	ND<250	U	250	5.55	ug/l	50	PREM	E112249-17					
cis-1,3-Dichloropropene	ND<250	U	250	6.95	ug/l	50	PREM	E112249-17					
m,p-Xylene (Sum of Isomers)	ND<250	U	250	21.2	ug/l	50	PREM	E112249-17					
o-Xylene (1,2-Dimethylbenzene)	ND<250	U	250	8.55	ug/l	50		E112249-17	38.2	48.3	26.6	FAIL	
trans-1,3-Dichloropropene	ND<250	U	250	3.40	ug/l	50	PREM	E112249-17					
Location Identifier: WT-AC-03-039 Sample Identifier 2001488	12/12/2001 12:5 Reported			ce Eval				Tab Mana	D. C.		, , , , ,		
Sample Identifier 2001488 Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limi	t	Result
Sample Identifier 2001488	Reported Concentration ND<0.44	Qualifiers U	R.L. 0.44	M.D.L. 0.120	Units ug/l	Dil.	Lab. PREM	E112477-8		Upper Limit	Lower Limi	t	Result
Sample Identifier 2001488 Chemical Name	Reported Concentration ND<0.44 ND<0.44	Qualifiers U U	R.L. 0.44 0.44	M.D.L. 0.120 0.120	Units ug/l ug/l	Dil. I	Lab. PREM PREM	E112477-8 E112477-8		 Upper Limit	Lower Limi	t	Result
Sample Identifier 2001488  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)	Reported Concentration ND<0.44 ND<0.44 ND<0.44	Qualifiers U U U	R.L. 0.44 0.44 0.44	M.D.L. 0.120 0.120 0.120	Units ug/l ug/l ug/l	Dil.  1 1 1	Lab. PREM PREM PREM	E112477-8 E112477-8 E112477-8		Upper Limit	Lower Limi	t	Result
Sample Identifier 2001488  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)  PCB-1242 (Arochlor 1242)	Reported Concentration ND<0.44 ND<0.44 ND<0.44 ND<0.44	Qualifiers U U U U	R.L. 0.44 0.44 0.44 0.44	M.D.L. 0.120 0.120 0.120 0.120	Units ug/l ug/l ug/l ug/l	Dil.  1 1 1 1	Lab. PREM PREM PREM PREM	E112477-8 E112477-8 E112477-8 E112477-8		Upper Limit	Lower Limi	t	Result
Sample Identifier 2001488  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)  PCB-1242 (Arochlor 1242)  PCB-1248 (Arochlor 1248)	Reported Concentration ND<0.44 ND<0.44 ND<0.44 ND<0.44 ND<0.44	Qualifiers U U U	R.L. 0.44 0.44 0.44 0.44	M.D.L. 0.120 0.120 0.120 0.120 0.120	Units ug/l ug/l ug/l ug/l ug/l	Dil.  1 1 1 1 1	Lab. PREM PREM PREM PREM PREM	E112477-8 E112477-8 E112477-8 E112477-8 E112477-8					Result
Sample Identifier 2001488  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)  PCB-1242 (Arochlor 1242)  PCB-1248 (Arochlor 1248)  PCB-1254 (Arochlor 1254)	Reported Concentration ND<0.44 ND<0.44 ND<0.44 ND<0.44 ND<0.44	Qualifiers  U  U  U  U  U	R.L. 0.44 0.44 0.44 0.44 0.44	M.D.L. 0.120 0.120 0.120 0.120 0.120 0.120	Units ug/l ug/l ug/l ug/l ug/l ug/l	Dil.  1 1 1 1	Lab. PREM PREM PREM PREM PREM PREM	E112477-8 E112477-8 E112477-8 E112477-8 E112477-8 E112477-8		Upper Limit	Lower Limi	t Pass	Result
Sample Identifier 2001488  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)  PCB-1242 (Arochlor 1242)  PCB-1248 (Arochlor 1248)	Reported Concentration ND<0.44 ND<0.44 ND<0.44 ND<0.44 ND<0.44	Qualifiers U U U U	R.L. 0.44 0.44 0.44 0.44	M.D.L. 0.120 0.120 0.120 0.120 0.120	Units ug/l ug/l ug/l ug/l ug/l	Dil.  1 1 1 1 1	Lab. PREM PREM PREM PREM PREM PREM	E112477-8 E112477-8 E112477-8 E112477-8 E112477-8					Result
Sample Identifier 2001488  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)  PCB-1242 (Arochlor 1242)  PCB-1248 (Arochlor 1248)  PCB-1254 (Arochlor 1254)  PCB-1260 (Arochlor 1260)	Reported Concentration ND<0.44 ND<0.44 ND<0.44 ND<0.44 ND<0.44	Qualifiers  U  U  U  U  U	R.L. 0.44 0.44 0.44 0.44 0.44	M.D.L. 0.120 0.120 0.120 0.120 0.120 0.120	Units ug/l ug/l ug/l ug/l ug/l ug/l	Dil.  1 1 1 1 1	Lab. PREM PREM PREM PREM PREM PREM	E112477-8 E112477-8 E112477-8 E112477-8 E112477-8 E112477-8					Result
Sample Identifier 2001488  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)  PCB-1242 (Arochlor 1242)  PCB-1248 (Arochlor 1248)  PCB-1254 (Arochlor 1254)	Reported Concentration ND<0.44 ND<0.44 ND<0.44 ND<0.44 ND<0.44	Qualifiers  U  U  U  U  U	R.L. 0.44 0.44 0.44 0.44 0.44 0.44	M.D.L. 0.120 0.120 0.120 0.120 0.120 0.120	Units ug/l ug/l ug/l ug/l ug/l ug/l ug/l	Dil.  1 1 1 1 1 1 1 1	Lab. PREM PREM PREM PREM PREM PREM PREM PREM	E112477-8 E112477-8 E112477-8 E112477-8 E112477-8 E112477-8					Result
Sample Identifier 2001488  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)  PCB-1242 (Arochlor 1242)  PCB-1248 (Arochlor 1248)  PCB-1254 (Arochlor 1254)  PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-03-040	Reported Concentration ND<0.44 ND<0.44 ND<0.44 ND<0.44 ND<0.44 3.2 ND<0.44	Qualifiers  U  U  U  U  U	R.L. 0.44 0.44 0.44 0.44 0.44 0.44	M.D.L. 0.120 0.120 0.120 0.120 0.120 0.120 0.120	Units ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	Dil.  1 1 1 1 1 1 1 1	Lab. PREM PREM PREM PREM PREM PREM PREM PREM	E112477-8 E112477-8 E112477-8 E112477-8 E112477-8 E112477-8		4.25		Pass	Result
Sample Identifier 2001488  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)  PCB-1242 (Arochlor 1242)  PCB-1248 (Arochlor 1248)  PCB-1254 (Arochlor 1254)  PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-03-040  Sample Identifier 2001489	Reported Concentration ND<0.44 ND<0.44 ND<0.44 ND<0.44 ND<0.44 3.2 ND<0.44	Qualifiers U U U U U T	R.L. 0.44 0.44 0.44 0.44 0.44 0.44	M.D.L.  0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120	Units ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	Dil.  1 1 1 1 1 1 1 1 1 1 Dil.	Lab. PREM PREM PREM PREM PREM PREM PREM PREM	E112477-8 E112477-8 E112477-8 E112477-8 E112477-8 E112477-8	3.22	4.25	1.65	Pass	
Sample Identifier   2001488	Reported Concentration ND<0.44 ND<0.44 ND<0.44 ND<0.44 ND<0.44 ND<0.44 S.2 ND<0.44 12/12/2001 12:5 Reported Concentration	Qualifiers U U U U U T	R.L. 0.44 0.44 0.44 0.44 0.44 0.44 0.44 0	M.D.L.  0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120	Units  ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/	Dil.  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Lab. PREM PREM PREM PREM PREM PREM PREM PREM	E112477-8 E112477-8 E112477-8 E112477-8 E112477-8 E112477-8 E112477-8	3.22  Reference	4.25 Upper Limit	1.65 Lower Limit	Pass	
Chemical Name  PCB-1016 (Arochlor 1016) PCB-1221 (Arochlor 1221) PCB-1232 (Arochlor 1232) PCB-1242 (Arochlor 1242) PCB-1248 (Arochlor 1248) PCB-1254 (Arochlor 1254) PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-03-040 Sample Identifier 2001489  Chemical Name  Arsenic Barium	Reported Concentration ND<0.44 ND<0.44 ND<0.44 ND<0.44 ND<0.44 ND<0.44 3.2 ND<0.44 12/12/2001 12:5 Reported Concentration 0.40	Qualifiers U U U U U T	R.L. 0.44 0.44 0.44 0.44 0.44 0.44 0.44 0	M.D.L.  0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120	Units  ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/	Dil.  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Lab. PREM PREM PREM PREM PREM PREM PREM PREM	E112477-8 E112477-8 E112477-8 E112477-8 E112477-8 E112477-8 E112477-8	3.22  Reference  0.403	4.25 Upper Limit 0.461	Lower Limit	Pass Pass	
Chemical Name  PCB-1016 (Arochlor 1016) PCB-1221 (Arochlor 1221) PCB-1232 (Arochlor 1232) PCB-1242 (Arochlor 1242) PCB-1248 (Arochlor 1248) PCB-1254 (Arochlor 1254) PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-03-040 Sample Identifier 2001489  Chemical Name  Arsenic Barium Cadmium	Reported Concentration ND<0.44 ND<0.44 ND<0.44 ND<0.44 ND<0.44 ND<0.44 3.2 ND<0.44  12/12/2001 12:5 Reported Concentration 0.40 0.55 0.12	Qualifiers U U U U U T	R.L. 0.44 0.44 0.44 0.44 0.44 0.44 0.44 0	M.D.L.  0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120	Units  ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/	Dil.  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Lab. PREM PREM PREM PREM PREM PREM PREM PREM	E112477-8 E112477-8 E112477-8 E112477-8 E112477-8 E112477-8 Lab. Number E112477-9 E112477-9	Reference 0.403 0.486	4.25 Upper Limit 0.461 538 0.144	Lower Limit 0.345 0.434	Pass Pass FAIL	
Chemical Name  PCB-1016 (Arochlor 1016) PCB-1221 (Arochlor 1221) PCB-1232 (Arochlor 1232) PCB-1242 (Arochlor 1242) PCB-1248 (Arochlor 1248) PCB-1254 (Arochlor 1254) PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-03-040 Sample Identifier 2001489  Chemical Name  Arsenic Barium	Reported Concentration ND<0.44 ND<0.44 ND<0.44 ND<0.44 ND<0.44 ND<0.44 3.2 ND<0.44  12/12/2001 12:5 Reported Concentration 0.40 0.55	Qualifiers U U U U U T	R.L. 0.44 0.44 0.44 0.44 0.44 0.44 0.00 0.010 0.010 0.0020 0.010	M.D.L.  0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120	Units  ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/	Dil.  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Lab. PREM PREM PREM PREM PREM PREM PREM PREM	E112477-8 E112477-8 E112477-8 E112477-8 E112477-8 E112477-8 E112477-9 E112477-9 E112477-9	Reference 0.403 0.486 0.129	4.25 Upper Limit 0.461 538 0.144	Lower Limit 0.345 0.434 0.114	Pass FAIL Pass	



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Page 23										Loureir	o Engineerir	ng As:	sociate
Lead	0.33		0.004	0.00175	mg/L	1	PREM	E112477-9	0.339	0.381	0.297	Pass	
Mercury	0.014		0.000	2(0.00002	2 mg/L	1	PREM	E112477-9	0.0168	0.210	0.0126	Pass	
Nickel	0.82			0.00108			PREM	E112477-9	0.826	0.914	0.738	Pass	
Selenium	0.64			0.00460			PREM	E112477-9	0.655	0.751	0.559	Pass	
Silver	0.29		0.002	0 0.00627	mg/L	1	PREM	E112477-9	0.298	0.334	0.262	Pass	
Zinc	1.0		0.010	0.00198	mg/L	1	PREM	E112477-9	1.110	1.250	0.972	Pass	
Location Identifier: WT-AC-03-041		_	_										
Sample Identifier 2001490	12/12/2001 12:5	54 Per	forman	ce Evalı	uation	- Wate	er		-				
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit		Result
Cyanide	1.0		0.050		mg/L	5	PREM	E112477-10	1.03	1.31	0.716	Pass	
ocation Identifier: WT-AC-03-042 Sample Identifier 2001491	12/12/2001 12:5	57 Peri	forman	ce Evalı	uation -	- Wate	er				<u> </u>		
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit		Result
1,2,4-Trichlorobenzene	91		5.0	0.330	ug/l	1	PREM	E112477-11	150	155	66.2	Pass	
1,2-Dichlorobenzene	22		5.0	0.400	ug/l	l	PREM	E112477-11	27.2	30.4	6.64	Pass	
,3-Dichlorobenzene	41		5.0	0.310	ug/l	1	PREM	E112477-11	58.9	64.8	15.1	Pass	
1,4-Dichlorobenzene	ND<5.0	U	5.0	0.300	ug/l	I	PREM	E112477-11					
2,4,5-Trichlorophenol	78		5.0	0.550	ug/l	1	PREM	E112477-11	112	126	59.2	Pass	
2,4,6-Trichlorophenol	95		5.0	0.420	ug/l	1	PREM	E112477-11	146	169	71.7	Pass	
2,4-Dichlorophenol	130		5.0	0.380	ug/l	l	PREM	E112477-11	189	199	94.3	Pass	
2,4-Dimethylphenol	80		5.0	0.640	ug/l	1	PREM	E112477-11	123	139	49.0	Pass	
2,4-Dinitrophenol	130		5.0	0.0700	ug/l	1	PREM	E112477-11	184	191	30.1	Pass	
2,4-Dinitrotoluene	45		5.0	0.600	ug/l	1	PREM	E112477-11	55.4	64.2	28.9	Pass	
											00.1	D	
2,6-Dinitrotoluene	130		5.0	0.530	ug/l	1	PREM	E112477-11	165	193	89.1	Pass	
•	130 ND<5.0	U	5.0	0.530 0.510	ug/l ug/l	1 1		E112477-11 E112477-11	165	193	89.1	Pass	
2-Chloronaphthalene		U				1 1 1	PREM		165 87.2	96.0		Pass	
2-Chloronaphthalene 2-Chlorophenol	ND<5.0	U U	5.0	0.510	ug/l	1 1 1	PREM PREM	E112477-11					
2-Chloronaphthalene 2-Chlorophenol 2-Methylnaphthalene	ND<5.0 59		5.0 5.0	0.510 0.400	ug/l ug/l	1 1 1 1	PREM PREM PREM	E112477-11 E112477-11			39.9		
2-Chloronaphthalene 2-Chlorophenol 2-Methylnaphthalene 2-Methylphenol (o-Cresol)	ND<5.0 59 ND<5.0		5.0 5.0 5.0	0.510 0.400 0.430	ug/l ug/l ug/l	1 1 1 1 1	PREM PREM PREM PREM	E112477-11 E112477-11 E112477-11	87.2	96.0	39.9	Pass	
2-Chloronaphthalene 2-Chlorophenol 2-Methylnaphthalene 2-Methylphenol (o-Cresol) 2-Nitroaniline	ND<5.0 59 ND<5.0 22	U	5.0 5.0 5.0 5.0	0.510 0.400 0.430 0.420	ug/l ug/l ug/l ug/l	1 1 1 1 1 1	PREM PREM PREM PREM PREM	E112477-11 E112477-11 E112477-11 E112477-11	87.2	96.0	39.9 10.5	Pass	
2-Chloronaphthalene 2-Chlorophenol 2-Methylnaphthalene 2-Methylphenol (o-Cresol) 2-Nitroaniline 2-Nitrophenol	ND<5.0 59 ND<5.0 22 ND<25	U	5.0 5.0 5.0 5.0 25	0.510 0.400 0.430 0.420 0.550	ug/l ug/l ug/l ug/l ug/l	1	PREM PREM PREM PREM PREM PREM	E112477-11 E112477-11 E112477-11 E112477-11 E112477-11	87.2 30.4	96.0 36.5	39.9 10.5	Pass Pass	
2-Chloronaphthalene 2-Chlorophenol 2-Methylnaphthalene 2-Methylphenol (o-Cresol) 2-Nitroaniline 2-Nitrophenol 3,3'-Dichlorobenzidine	ND<5.0 59 ND<5.0 22 ND<25 24	U U	5.0 5.0 5.0 5.0 25 5.0	0.510 0.400 0.430 0.420 0.550 0.420	ug/l ug/l ug/l ug/l ug/l ug/l	1	PREM PREM PREM PREM PREM PREM PREM	E112477-11 E112477-11 E112477-11 E112477-11 E112477-11	87.2 30.4	96.0 36.5	39.9 10.5	Pass Pass	
2-Chloronaphthalene 2-Chlorophenol 2-Methylnaphthalene 2-Methylphenol (o-Cresol) 2-Nitroaniline 2-Nitrophenol 3,3'-Dichlorobenzidine 3-Nitroaniline	ND<5.0 59 ND<5.0 22 ND<25 24 ND<5.0	บ บ บ	5.0 5.0 5.0 5.0 25 5.0	0.510 0.400 0.430 0.420 0.550 0.420 0.730	ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E112477-11 E112477-11 E112477-11 E112477-11 E112477-11 E112477-11 E112477-11	87.2 30.4	96.0 36.5 32.2	39.9 10.5 14.0	Pass Pass	
2,6-Dinitrotoluene 2-Chloronaphthalene 2-Chlorophenol 2-Methylnaphthalene 2-Methylphenol (o-Cresol) 2-Nitroaniline 2-Nitrophenol 3,3'-Dichlorobenzidine 3-Nitroaniline 4,6-Dinitro-2-Methylphenol 4-Bromophenyl Phenyl ether	ND<5.0 59 ND<5.0 22 ND<25 24 ND<5.0 ND<25	บ บ บ	5.0 5.0 5.0 5.0 25 5.0 5.0 25	0.510 0.400 0.430 0.420 0.550 0.420 0.730	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E112477-11 E112477-11 E112477-11 E112477-11 E112477-11 E112477-11 E112477-11	87.2 30.4 28.7	96.0 36.5 32.2	39.9 10.5 14.0 26.3	Pass Pass Pass	

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Page Loureiro Engineering Associates, Inc. ND<10 U 10 0.410 ug/l PREM E112477-11 4-Chloroaniline 98 ug/l 1 PREM E112477-11 101 113 53.1 4-Chlorophenyl Phenyl ether 5.0 0.540 Pass ND<10 U 10 0.480 ug/l 1 PREM E112477-11 4-Nitroaniline ND<5.0 U 5.0 0.290 ug/l 1 PREM E112477-11 4-Nitrophenol 93.9 1 PREM E112477-11 83.3 43.9 Acenaphthene 56 5.0 0.450 ug/l Pass 0.470 ug/l 1 PREM E112477-11 19.0 22.0 9.72 16 5.0 Pass Acenaphthylene 52 5.0 0.560 ug/l 1 PREM E112477-11 49.8 57.2 28.4 Pass Anthracene 39.5 34 5.0 0.420 ug/i 1 PREM E112477-11 37.0 24.8 Pass Benzo(a)anthracene 19 5.0 0.350 ug/l 1 PREM E112477-11 20.0 22.9 9.42 Pass Benzo(a)pyrene 49.8 Benzo(b)fluoranthene 36 5.0 0.400 ug/l 1 PREM E112477-11 41.4 21.3 Pass ND<5.0 U 5.0 0.420 1 PREM E112477-11 ug/l Benzo(g,h,i)perylene 50.0 38 5.0 0.360 ug/l 1 PREM E112477-11 38.3 17.0 Pass Benzo(k)fluoranthene 68.5 21.5 47 5.0 0.460 ug/l I PREM E112477-11 56.6 Pass Benzyl Butyl Phthalate ND<5.0 U 5.0 ug/l 1 PREM E112477-11 Carbazole Chrysene 38 5.0 0.440 ug/l 1 PREM E112477-11 48.6 56.0 27.7 Pass ND<5.0 U 0.740 1 PREM E112477-11 5.0 ug/l Cresol,m- & p-0 20 5.0 0.370 ug/l 1 PREM E112477-11 18.4 21.7 Pass Dibenz(a,h)anthracene 35 10 0.480 ug/l 1 PREM E112477-11 43.8 49.9 21.7 Pass Dibenzofuran ND<5.0 U 5.0 0.660 ug/l 1 PREM E112477-11 Diethyl Phthalate PREM E112477-11 80.4 50 5.0 0.600 ug/l 1 63.4 14.7 Pass Dimethyl Phthalate 33 5.0 0.480 ug/l 1 PREM E112477-11 36.4 41.8 22.7 Pass Fluoranthene ND<5.0 U 5.0 PREM E112477-11 Fluorene 0.540 ug/l 1 5.0 0.550 ug/l 1 PREM E112477-11 70.0 80.5 40.6 Hexachlorobenzene 53 Pass ND<5.0 U 5.0 0.320 ug/l 1 PREM E112477-11 Hexachlorobutadiene 130 5.0 0.250 ug/l 1 PREM E112477-11 155 161 19.0 Pass Hexachlorocyclopentadiene ND<5.0 U 5.0 0.270 ug/l 1 PREM E112477-11 Hexachloroethane U ND<5.0 5.0 0.400 ug/l 1 PREM E112477-11 Indeno(1,2,3-c,d)pyrene ND<5.0 U 5.0 0.440 ug/l 1 PREM E112477-11 Isophorone 110 5.0 0.390 ug/l 1 PREM E112477-11 133 150 55.9 Pass Naphthalene 29 5.0 0.380 ug/l I PREM E112477-11 36.7 41.8 19.2 Nitrobenzene Pass 62 PREM E112477-11 5.0 0.380 ug/l 1 67.4 80.1 28.1 Pass Pentachlorophenol 87 5.0 0.560 ug/l 1 PREM E112477-11 96.1 110 51.2 Pass Phenanthrene 21 5.0 0.360 ug/l 1 PREM E112477-11 0 63.4 70.0 Pass Phenol 31 5.0 0.390 ug/l 1 PREM E112477-11 38.2 48.4 19.6 Pass Pyrene bis(2-Chloroethoxy) Methane ND<5.0 U 5.0 0.460 ug/l 1 PREM E112477-11 31 5.0 0.350 ug/l 1 PREM E112477-11 38.7 44.2 18.4 Pass bis(2-Chloroethyl) ether (2-Chloroethyl ND<10 U 0.310 1 PREM E112477-11 10 ug/l bis(2-Chloroisopropyl) ether 39 5.0 1.77 ug/l 1 PREM E112477-11 55.6 bis(2-Ethylhexyl) Phthalate 44.1 24.2 Pass ND<5.0 U 1 di-n-Butyl Phthalate 5.0 1.14 ug/1 PREM E112477-11 ND<5.0 U 5.0 0.500 ug/l 1 PREM E112477-11 di-n-Octylphthalate



Page 25 Loureiro Engineering Associates, Inc. 50 5.0 0.580 PREM E112477-11 49.6 57.0 23.0 Pass n-Nitrosodi-n-Propylamine ug/l ND<5.0 U n-Nitrosodiphenylamine 5.0 0.640 ug/l 1 PREM E112477-11 Location Identifier: WT-AC-03-043 Sample Identifier 2001492 12/12/2001 13:00 Performance Evaluation - Water Reported Qualifiers R.L. M.D.L. Units Dil. Lab. Number Chemical Name Lab Reference Upper Limit Lower Limit Result Concentration Total Petroleum Hydrocarbons EPA 418.1 40 2.0 0.750 mg/L 5 PREM E112477-12 33.4 41.8 20 Pass Location Identifier: WT-AC-03-044 2001493 12/12/2001 13:03 Performance Evaluation - Water Sample Identifier Reported R.L. M.D.L. Units Dil. Chemical Name Qualifiers Lab. Lab. Number Reference Upper Limit Lower Limit Result Concentration 39 PREM E112477-13 43.0 27.1 5.0 0.184 35.6 Pass 1,1,1-Trichloroethane ug/l PREM E112477-13 98 5.0 0.243 ug/l 1 89.0 112 64 2 Pass 1.1.2.2-Tetrachloroethane U ND<5.0 5.0 0.175 ug/l 1 PREM E112477-13. 1,1,2-Trichloroethane ND<5.0 U 5.0 0.228 ug/l 1 PREM E112477-13 1,1-Dichloroethane 1,1-Dichloroethene ND<5.0 U 5.0 0.274 ug/l 1 PREM E112477-13 0.288 PREM E112477-13 35.7 46 5.0 ug/l 1 44.7 54.8 Pass 1,2-Dichloroethane ND<5.0 U 5.0 0.234 ug/l PREM E112477-13 1,2-Dichloropropane U ND<10 10 1.88 1 PREM E112477-13 2-Hexanone ug/l ND<20 U 20 2.65 ug/l 1 PREM E112477-13 Acetone Benzene 54 5.0 0.184 นg/โ 1 PREM E112477-13 50.0 59.6 40.8 Pass 28 0.172 PREM E112477-13 32.9 21.9 Bromodichloromethane 5.0 ug/l 1 27.3 Pass Pass Bromoform 24 5.0 0.127 ug/l 1 PREM E112477-13 25.6 32.0 19.2 ND<5.0 U 1 PREM E112477-13 Bromomethane 5.0 0.167 ug/l ND<5.0 U 5.0 0.498 ug/l PREM E112477-13 Carbon Disulfide 45 PREM E112477-13 30.6 Carbon Tetrachloride 5.0 0.228 u<sub>2</sub>/1 1 40.7 52.1 Pass 57 PREM E112477-13 43.7 Chlorobenzene 5.0 0.157 ug/l 1 54.7 64.5 Pass ND<5.0 U 5.0 0.525 ug/l 1 PREM E112477-13 Chloroethane Chloroform 76 5.0 0.226 ug/l 1 PREM E112477-13 72.1 85.2 56.9 Pass ND<5.0 U 5.0 0.148 ug/l 1 PREM E112477-13 Chloromethane 22 0.156 Dibromochloromethane 5.0 ug/l 1 PREM E112477-13 22.6 27.4 17.4 Pass 62 5.0 0.176 PREM E112477-13 58.1 69.8 44.9 Pass Ethylbenzene ug/l ND<10 U PREM E112477-13 Methyl Ethyl ketone (2-Butanone) 10 1.94 ug/l PREM E112477-13 Methyl Isobutyl ketone (4-Methyl-2-Penta 82 10 1.89 ug/l 1 80.9 107 49.8 Pass 5.0 0.789 ug/l PREM E112477-13 73.3 Methylene Chloride 64 -1 58.6 44.3 Pass ND<5.0 U 5.0 0.170 ug/l 1 PREM E112477-13 Styrene 30 0.171 Tetrachloroethylene (PCE) ug/l PREM E112477-13 27.1 32.1 20.7 Pass



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Page 26											Loureir	o Engineeri	ng Asso	ociates,
Toluene		56		5.0	0.188	ug/l	1		E112477-13	53.0	61.4	42.8	Pass	
Trichloroethylene (TCE)		40		5.0	0.220	ug/l	l	PREM	E112477-13	36.6	43.5	27.7	Pass	
Vinyl Chloride		ND<5.0	U	5.0	0.111	ug/l	1	PREM	E112477-13					
cis-1,3-Dichloropropene		ND<5.0	U	5.0	0.139	ug/l	1	PREM	E112477-13					
m,p-Xylene (Sum of Isomers	)	59		5.0	0.424	ug/l	I	PREM	E112477-13	54.2	67.5	37.8	Pass	
o-Xylene (1,2-Dimethylbenze	ene)	ND<5.0	U	5.0	0.171	ug/l	1	PREM	E112477-13					
trans-1,3-Dichloropropene		ND<5.0	U	5.0	0.0680	ug/l	1	PREM	E112477-13		_			
Location Identifier: Wi	Γ-AC-03-045 2001525	12/17/2001 13:3	10 D	erformar	oo Eval	uotion	Wat	0°						
Sample Identifier	2001323		io ri	ci ioiiiiai	ice Evai	uation	- wai	ei						
Chemical Name		Reported Concentration	Qualifier	s R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	t	Result
PCB-1016 (Arochlor 1016)		ND<0.43	U	0.43	0.120	ug/l	1	PREM	E112639-15					
PCB-1221 (Arochlor 1221)		ND<0.43	U	0.43	0.120	ug/l	1	PREM	E112639-15					
PCB-1232 (Arochlor 1232)		ND<0.43	U	0.43	0.120	ug/l	1	PREM	E112639-15					
PCB-1242 (Arochlor 1242)		ND<0.43	U	0.43	0.120	ug/l	1	PREM	E112639-15					
PCB-1248 (Arochlor 1248)		ND<0.43	U	0.43	0.120	ug/l	ı	PREM	E112639-15					
PCB-1254 (Arochlor 1254)		4.3		0.43	0.120	ug/l	1	PREM	E112639-15					
PCB-1260 (Arochlor 1260)		ND<0.43	U	0.43	0.120	ug/l	1	PREM	E112639-15					
Location Identifier: WT Sample Identifier  Chemical Name	2001550	12/21/2001 13:3 Reported Concentration	5 Pe	erformar s R.L.	nce Eval M.D.L.		- Wat	er Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	: F	Result
DCD 1017 (Annalis 1017)			U	0.40	0.130			DDTM	E113977 30					
PCB-1016 (Arochlor 1016)		ND<0.40	U	0.40	0.120	ug/l	l I		E112877-20 E112877-20					
PCB-1221 (Arochlor 1221)		ND<0.40 ND<0.40	U	0.40	0.120 0.120	ug/l	1		E112877-20					
PCB-1232 (Arochlor 1232)		ND<0.40 ND<0.40	U	0.40 0.40	0.120	ug/l ug/l	1		E112877-20					
PCB-1242 (Arochlor 1242)			U	0.40		•	1		E112877-20					
PCB-1248 (Arochlor 1248)		ND<0.40	U	0.40	0.120	ug/l	1			2.04	2.60	1.04	D	
PCB-1254 (Arochlor 1254)		1.9 ND <0.40	U		0.120	ug/l	1		E112877-20	2.04	2.69	1.04	Pass	
PCB-1260 (Arochlor 1260)		ND<0.40		0.40	0.120	ug/l	<u> </u>	PREM	E112877-20					
Location Identifier: WT Sample Identifier	C-AC-03-047 2001579	01/02/2002 15:0	5 Pe	erforman	ice Eval	uation	- Wate	er		·				
Chemical Name		Reported Concentration	Qualifiers	s R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	F	Result
PCB-1016 (Arochlor 1016)	- · · · -	ND<0.41	U	0.41	0.120	ug/l	1	PREM	E201032-17					
PCB-1221 (Arochlor 1221)		ND<0.41	Ü	0.41	0.120	ug/l	l		E201032-17		•	•		
PCB-1232 (Arochlor 1232)		ND<0.41	Ŭ	0.41	0.120	ug/l	1		E201032-17					
1 CD-1434 (MOUIIOL1434)		110.70.71	0	U. 7 I	0.120	~ <del>~</del> ~		1 1 1 1 1 1 1	-201032-17					



Page 27										Loureir	o Engineeri	ng Ass	sociates, Inc.
PCB-1242 (Arochlor 1242) PCB-1248 (Arochlor 1248) PCB-1254 (Arochlor 1254) PCB-1260 (Arochlor 1260)	ND<0.41 ND<0.41 3.6 ND<0.41	U U	0.41 0.41 0.41 0.41	0.120 0.120 0.120 0.120	ug/l ug/l ug/l ug/l	1 1 1	PREM PREM	E201032-17 E201032-17 E201032-17 E201032-17	4.58	6.04	2.34	Pass	
Location Identifier: WT-AC-03-048 Sample Identifier 2001600	01/03/2002 13:3	5 Per	forman	ce Eval	uation -	- Wate	er						
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	t	Result
PCB-1016 (Arochlor 1016)	ND<0.41	U	0.41	0.120	ug/l	1	PREM	E201085-21	_	· · · · · · · · · · · · · · · · · · ·	-		
PCB-1221 (Arochlor 1221)	ND<0.41	U	0.41	0.120	ug/l	i	PREM	E201085-21					
PCB-1232 (Arochlor 1232)	ND<0.41	U	0.41	0.120	ug/l	1	PREM	E201085-21					
PCB-1242 (Arochlor 1242)	ND<0.41	U	0.41	0.120	ug/l	1	PREM	E201085-21					
PCB-1248 (Arochlor 1248)	ND<0.41	U	0.41	0.120	ug/l	ì	PREM	E201085-21					
PCB-1254 (Arochlor 1254)	5.4		0.41	0.120	ug/l	1	PREM	E201085-21	6.11	8.06	3.13	Pass	
PCB-1260 (Arochlor 1260)	ND<0.41	U	0.41	0.120	ug/l	1	PREM	E201085-21					
Location Identifier: WT-AC-03-049 Sample Identifier 2001610	01/04/2002 13:0	2 Per	forman	ce Eval	uation ·	Wate	er		***************				
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	!	Result
PCB-1016 (Arochlor 1016)	ND<0.41	U	0.41	0.120	ug/l	1	PREM	E201124-10					
PCB-1221 (Arochlor 1221)	ND<0.41	U	0.41	0.120	ug/l	1	PREM	E201124-10					
PCB-1232 (Arochlor 1232)	ND<0.41	U	0.41	0.120	ug/l	I	PREM	E201124-10					
PCB-1242 (Arochlor 1242)	ND<0.41	U	0.41	0.120	ug/l	1	PREM	E201124-10					
PCB-1248 (Arochlor 1248)	ND<0.41	U	0.41	0.120	ug/l	1		E201124-10					
PCB-1254 (Arochlor 1254)	2.4		0.41	0.120	ug/l	1		E201124-10	2.54	3.35	3.35	FAIL	
PCB-1260 (Arochlor 1260)	ND<0.41	U	0.41	0.120	ug/l	l	PREM	E201124-10					
Location Identifier: WT-AC-03-050 Sample Identifier 2001611	01/04/2002 13:1	2 Per	forman	ce Evalı	uation -	· Wate	er						
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit		Result
Arsenic	0.21		0.010	0	mg/L	1	PREM	E201124-11	0.227	0.259	0.194	Pass	
Barium	0.47		0.010	0.00068	~	1		E201124-11	0.486	0.538	0.434	Pass	
Cadmium	0.046			0.00032		1		E201124-11	0.0509	0.0568	0.0450	Pass	
Chromium, Total	0.23		0.010	0.00074	0 mg/L	1		E201124-11	0.233		0.208	Pass	
Copper	0.16		0.010	0.00087	0 mg/L	1	PREM	E201124-11	0.156	0.174	0.138	Pass	



Page 28										Loureir	o Engineeri	ng As	sociates,
Mercury	0.0014		0.0002	2(0.000022	2 mg/L	1	PREM	E201124-11	0.00340	0.00425	0.00254	FAIL	
Nickel	0.18		0.010	0.00108	mg/L	1	PREM	E201124-11	0.187	0.203	0.164	Pass	
elenium	0.27		0.010	0.00460	mg/L	1	PREM	E201124-11	0.277	0.318	0.236	Pass	
ilver	0.37		0.0020	0.00627	mg/l.	1	PREM	E201124-11	0.370	0.414	0.325	Pass	
Zinc	0.099	J	0.010	0.00198	mg/L	l	PREM	E201124-11	0.137	0.154	0.120	FAIL	
ocation Identifier: WT-AC-03-0	)51								-				
Sample Identifier 2001612	01/04/2002 13:1	6 Per	forman	ce Evalu	ation	- Wate	er	,					
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	t	Result
Cyanide	0.28		0.010		mg/L	1	PREM	E201124-12	0.312	0.396	0.216	Pass	
ocation Identifier: WT-AC-03-0	)52												
Sample Identifier 2001613	01/04/2002 13:1	8 Per	forman	ce Evalu	ation -	Wate	er						
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	l	Result
2,4-Trichlorobenzene	34		5.4	0.330	ug/l	1	PREM	E201124-13	42,4	46.3	18.9	Pass	
2-Dichlorobenzene	45		5.4	0.400	ug/l	1	PREM	E201124-13	60.3	63.3	10.7	Pass	
3-Dichlorobenzene	ND<5.4	U	5.4	0.310	ug/l	I	PREM	E201124-13					
,4-Dichlorobenzene	ND<5.4	U	5.4	0.300	ug/l	1	PREM	E201124-13					
4,5-Trichlorophenol	110		5.4	0.550	ug/l	1	PREM	E201124-13	138	155	71.4	Pass	
.4.6-Trichlorophenol	59		5.4	0.420	ug/l	1	PREM	E201124-13	71.0	81.9	35.6	Pass	
4-Dichlorophenol	70		5.4	0.380	ug/l	1	PREM	E201124-13	89.8	96.3	45.2	Pass	
4-Dimethylphenol	93		5.4	0.640	ug/l	l	PREM	E201124-13	127	143	50.7	Pass	
4-Dinitrophenol	87		5.4	0.0700	ug/l	1	PREM	E201124-13	129	140	22.9	Pass	
,4-Dinitrotoluene	ND<5.4	U	5.4	0.600	ug/l	1	PREM	E201124-13					
,6-Dinitrotoluene	71		5.4	0.530	ug/l	1	PREM	E201124-13	91.2	105	48.9	Pass	
-Chloronaphthalene	ND<5.4	U	5.4	0.510	ug/l	1	PREM	E201124-13					
-Cinoronapinulaiene										04.5	40.0	Pass	
•	67		5.4	0.400	ug/l	1	PREM	E201124-13	87.4	96.2	<del>4</del> 0.0	F 455	
-Chlorophenol	67 ND<5.4	U	5.4 5.4	0.400 0.430	ug/l ug/l	1 1		E201124-13 E201124-13	87.4	96.2	40.0	F 455	
-Chlorophenol -Methylnaphthalene		U			ug/i	1 1 1	PREM		87.4 90.5	98.6	30.3	Pass	
-Chlorophenol -Methylnaphthalene -Methylphenol (o-Cresol)	ND<5.4	U U	5.4	0.430	ug/l ug/l	1 1 1	PREM PREM	E201124-13					
-Chlorophenol -Methylnaphthalene -Methylphenol (o-Cresol) -Nitroaniline	ND<5.4 61	_	5.4 5.4	0.430 0.420	ug/l ug/l ug/l	1 1 1 1	PREM PREM	E201124-13 E201124-13					
-Chlorophenol -Methylnaphthalene -Methylphenol (o-Cresol) -Nitroaniline -Nitrophenol	ND<5.4 61 ND<27	_	5.4 5.4 27	0.430 0.420 0.550	ug/l ug/l ug/l ug/l	1 1 1 1 1	PREM PREM PREM	E201124-13 E201124-13 E201124-13	90.5	98.6	30.3	Pass	
-Chlorophenol -Methylnaphthalene -Methylphenol (o-Cresol) -Nitroaniline -Nitrophenol 3'-Dichlorobenzidine	ND<5.4 61 ND<27 76	U	5.4 5.4 27 5.4	0.430 0.420 0.550 0.420 0.730	ug/l ug/l ug/l ug/l ug/l	-	PREM PREM PREM PREM PREM	E201124-13 E201124-13 E201124-13 E201124-13	90.5	98.6	30.3	Pass	
-Chlorophenol -Methylnaphthalene -Methylphenol (o-Cresol) -Nitroaniline -Nitrophenol ,3'-Dichlorobenzidine -Nitroaniline	ND<5.4 61 ND<27 76 ND<5.4	U U	5.4 5.4 27 5.4 5.4	0.430 0.420 0.550 0.420 0.730	ug/l ug/l ug/l ug/l ug/l ug/l	1	PREM PREM PREM PREM PREM PREM	E201124-13 E201124-13 E201124-13 E201124-13 E201124-13	90.5	98.6	30.3	Pass	
-Chlorophenol -Methylnaphthalene -Methylphenol (o-Cresol) -Nitroaniline -Nitrophenol ,3'-Dichlorobenzidine -Nitroaniline ,6-Dinitro-2-Methylphenol	ND<5.4 61 ND<27 76 ND<5.4 ND<27	U U	5.4 5.4 27 5.4 5.4 27 5.4	0.430 0.420 0.550 0.420 0.730	ug/l ug/l ug/l ug/l ug/l ug/l	1	PREM PREM PREM PREM PREM PREM	E201124-13 E201124-13 E201124-13 E201124-13 E201124-13 E201124-13	90.5 94.4	98.6 108	30.3 44.3	Pass Pass	
2-Chlorophenol 2-Methylnaphthalene 2-Methylphenol (o-Cresol) 2-Nitroaniline 2-Nitrophenol 3,3'-Dichlorobenzidine 3-Nitroaniline 4-6-Dinitro-2-Methylphenol 3-Bromophenyl Phenyl ether 3-Chloro-3-Methylphenol	ND<5.4 61 ND<27 76 ND<5.4 ND<27	U U U	5.4 5.4 27 5.4 5.4 27	0.430 0.420 0.550 0.420 0.730 0.440	ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1	PREM PREM PREM PREM PREM PREM PREM	E201124-13 E201124-13 E201124-13 E201124-13 E201124-13 E201124-13 E201124-13	90.5 94.4	98.6 108 171	30.3 44.3	Pass Pass	

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4-Chlorophenyl Phenyl ether	46		5.4	0.540	ug/l	1	PREM E201124-13	57.0	64.3	32.7	Pass
4-Nitroaniline	ND<11	U	11	0.480	ug/l	1	PREM E201124-13				
4-Nitrophenol	26		5.4	0.290	ug/i	1	PREM E201124-13	56.2	65.3	0	Pass
Acenaphthene	ND<5.4	U	5.4	0.450	ug/l	1	PREM E201124-13				
Acenaphthylene	50		5.4	0.470	ug/l	1	PREM E201124-13	67.2	73.1	35.7	Pass
Anthracene	ND<5.4	U	5.4	0.560	ug/l	1	PREM E201124-13				
Benzo(a)anthracene	28		5.4	0.420	ug/l	1	PREM E201124-13	37.8	40.4	25.3	Pass
Benzo(a)pyrene	21		5.4	0.350	ug/l	1	PREM E201124-13	30.3	34.4	10.1	Pass
Benzo(b)fluoranthene	ND<5.4	U	5.4	0.400	ug/l	1	PREM E201124-13				
Benzo(g,h,i)perylene	14		5.4	0.420	ug/l	1	PREM E201124-13	20.2	25.4	4.96	Pass
Benzo(k)fluoranthene	16		5.4	0.360	ug/l	1	PREM E201124-13	20.9	29.2	9.15	Pass
Benzyl Butyl Phthalate	38		5.4	0.460	ug/l	1	PREM E201124-13	32.5	45.3	15.0	Pass
Carbazole	ND<5.4	U	5.4		ug/l	1	PREM E201124-13				
Chrysene	50		5.4	0.440	ug/l	1	PREM E201124-13	64.2	74.2	35.5	Pass
Cresol,m- & p-	ND<5.4	U	5.4	0.740	ug/l	1	PREM E201124-13				
Dibenz(a,h)anthracene	ND<5.4	U	5.4	0.370	ug/l	1	PREM E201124-13				
Dibenzofuran	ND<11	U	11	0.480	ug/l	1	PREM E201124-13				
Diethyl Phthalate	67		5.4	0.660	ug/l	1	PREM E201124-13	80.4	102	22.0	Pass
Dimethyl Phthalate	95		5.4	0.600	ug/l	1	PREM E201124-13	136	168	5.97	Pass
Fluoranthene	49		5.4	0.480	ug/l	1	PREM E201124-13	61.1	70.1	36.2	Pass
Fluorene	63		5.4	0.540	ug/l	1	PREM E201124-13	79.0	90.2	44.6	Pass
Hexachlorobenzene	27		5.4	0.550	ug/l	1	PREM E201124-13	39.4	45.5	22.8	Pass
Hexachlorobutadiene	62		5.4	0.320	ug/l	1	PREM E201124-13	85.8	98.7	29.0	Pass
Hexachlorocyclopentadiene	ND<5.4	U	5.4	0.250	ug/l	1	PREM E201124-13				
Hexachloroethane	25		5.4	0.270	ug/l	1	PREM E201124-13	32.9	37.2	11.2	Pass
Indeno(1,2,3-c,d)pyrene	ND<5.4	U	5.4	0.400	ug/l	l	PREM E201124-13				
Isophorone	61		5.4	0.440	ug/l	1	PREM E201124-13	64.7	75.1	34.2	Pass
Naphthalene	85		5.4	0.390	ug/l	1	PREM E201124-13	122	137	51.6	Pass
Nitrobenzene	24		5.4	0.380	ug/l	1	PREM E201124-13	25.9	29.5	14.1	Pass
Pentachlorophenol	63		5.4	0.380	ug/l	1	PREM E201124-13	82.4	98.2	35.5	Pass
Phenanthrene	37		5.4	0.560	ug/l	1	PREM E201124-13	44.7	50.5	28.7	Pass
Phenol	13		5.4	0.360	ug/l	1	PREM E201124-13	29.6	34.1	0	Pass
Pyrene	42		5.4	0.390	ug/l	1	PREM E201124-13	49.6	61.4	25.2	Pass
bis(2-Chloroethoxy) Methane	16		5.4	0.460	ug/l	1	PREM E201124-13	18.6	21.1	9.82	Pass
bis(2-Chloroethyl) ether (2-Chloroethyl	ND<5.4	U	5.4	0.350	ug/l	1	PREM E201124-13				
bis(2-Chloroisopropyl) ether	76		11	0.310	ug/l	I	PREM E201124-13	97.3	124	44.1	Pass
bis(2-Ethylhexyl) Phthalate	97		5.4	1.77	ug/l	1	PREM E201124-13	116	145	44.4	Pass
di-n-Butyl Phthalate	25		5.4	1.14	ug/l	1	PREM E201124-13	25.7	34.0	- 17.8	Pass
di-n-Octylphthalate	13		5.4	0.500	ug/l	1	PREM E201124-13	14.5	21.2	10.1	Pass
n-Nitrosodi-n-Propylamine	98		5.4	0.580	ug/l	l	PREM E201124-13	110	125	52.3	Pass

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Page Loureiro Engineering Associates, Inc. PREM E201124-13 n-Nitrosodiphenylamine ND<5.4 U 5.4 0.640 ug/l Location Identifier: WT-AC-03-053 2001614 01/04/2002 13:21 Performance Evaluation - Water Sample Identifier Reported Chemical Name Qualifiers R.L. M.D.L. Units Dil. Lab. Lab. Number Reference Upper Limit Lower Limit Result Concentration Total Petroleum Hydrocarbons EPA 418.1 66 2.0 0.750 mg/L 5 PREM E201124-14 75.8 94.8 45.5 Pass Location Identifier: WT-AC-03-054 Performance Evaluation - Water Sample Identifier 2001615 01/04/2002 13:25 Reported Chemical Name Qualifiers R.L. M.D.L. Units Lab. Number Upper Limit Lower Limit Dil. Lab. Reference Result Concentration 1.1.1-Trichloroethane 43 5.0 0.184 PREM E201124-15 39.6 47.8 30.1 Pass ug/l PREM E201124-15 110 5.0 0.243 ug/l 1 107 135 77.3 Pass 1,1,2,2-Tetrachloroethane 0.175 PREM E201124-15 162 1.1.2-Trichloroethane 140 5.0 ug/l 1 135 105 Pass U ND<5.0 5.0 0.228 ug/l PREM E201124-15. 1,1-Dichloroethane 100 0.274 PREM E201124-15 85.6 116 61.2 1,1-Dichloroethene 5.0 ug/l 1 Pass 1,2-Dichloroethane 31 5.0 0.288 ug/l PREM E201124-15 29.1 35.9 23.4 Pass PREM E201124-15 Pass 140 5.0 0.234 ug/l 131 154 101 1,2-Dichloropropane ND<10 U 10 1.88 PREM E201124-15 ug/l 2-Hexanone U PREM E201124-15 ND<20 20 2.65 ug/l Acetone 50 5.0 0.184 ug/l PREM E201124-15 48.3 57.6 39.4 Pass Benzene PREM E201124-15 71.0 Bromodichloromethane 60 5.0 0.172 ug/l 59.1 47.8 Pass 56 PREM E201124-15 75.6 5.0 0.127ug/l 60.5 46.8 Pass Bromoform 18 0.167 PREM E201124-15 20.8 30.9 10.5 Pass Bromomethane 5.0 ug/l ND<5.0 U 0.498 PREM E201124-15 Carbon Disulfide 5.0 ug/l Carbon Tetrachloride 14 5.0 0.228 ug/l PREM E201124-15 12.6 16.2 9.70 Pass PREM E201124-15 54 0.157 51.6 60.8 41.3 Chlorobenzene 5.0 ug/l Pass ND<5.0 U 0.525 PREM E201124-15 Chloroethane 5.0 ug/l 1 PREM E201124-15 25.7 30.6 Chloroform 29 5.0 0.226 ug/l 1 20.6 Pass ND<5.0 U PREM E201124-15 Chloromethane 5.0 0.148 ug/l Dibromochloromethane 75 5.0 0.156 ug/l 1 PREM E201124-15 73.6 89.6 56.9 Pass 0.176 PREM E201124-15 26.1 31.2 20.3 Ethylbenzene 28 5.0 ug/l 1 Pass ND<10 U 10 1.94 ug/l 1 PREM E201124-15 Methyl Ethyl ketone (2-Butanone) PREM E201124-15 Methyl Isobutyl ketone (4-Methyl-2-Penta ND<10 U 10 1.89 ug/l 1 PREM E201124-15 57.4 5.0 0.789 ug/i 1 45.7 34.6 Pass Methylene Chloride 56 ND<5.0 U 5.0 0.170 ug/l 1 PREM E201124-15 Styrene Tetrachloroethylene (PCE) 26 5.0 0.171 ug/l 1 PREM E201124-15 26.1 31.0 20.0 Pass

0.188

ug/l

PREM E201124-15

10.9

13.1

8.60

Pass

Toluene



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rage 31										Loureir	o Engineeri	ng Associates, Inc.
Trichloroethylene (TCE)	41		5.0	0.220	ug/l	1	PREM	E201124-15	37.6	44.6	28.5	Pass
Vinyl Chloride	ND<5.0	U	5.0	0.111	ug/l	1	PREM	E201124-15				
cis-1,3-Dichloropropene	ND<5.0	U	5.0	0.139	ug/l	1	PREM	E201124-15				
m,p-Xylene (Sum of Isomers)	85		5.0	0.424	ug/l	1	PREM	E201124-15	80.7	98.4	56.5	Pass
o-Xylene (1,2-Dimethylbenzene)	49		5.0	0.171	ug/l	1	PREM	E201124-15				FALSE POSITIVE
trans-1,3-Dichloropropene	ND<5.0	U	5.0	0.0680	ug/l	1	PREM	E201124-15				
Location Identifier: WT-AC-03-055												·· <del>· · ·</del>
Sample Identifier 2001628	01/07/2002 13:1	0 Per	forman	ce Eval	uation	- Wat	er					
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	Result
PCB-1016 (Arochlor 1016)	ND<0.42	U	0.42	0.120	ug/l	1	PREM	E201171-13				
PCB-1221 (Arochlor 1221)	ND<0.42	U	0.42	0.120	ug/l	1		E201171-13				
PCB-1232 (Arochlor 1232)	ND<0.42	U	0.42	0.120	ug/l	i		E201171-13				
PCB-1242 (Arochlor 1242)	ND<0.42	U	0.42	0.120	ug/l	1		E201171-13				
PCB-1248 (Arochlor 1248)	ND<0.42	Ū	0.42	0.120	ug/l	1		E201171-13				
PCB-1254 (Arochlor 1254)	6.2		0.42	0.120	ug/l	1		E201171-13	7.33	9.68	3.75	Pass
PCB-1260 (Arochlor 1260)	ND<0.42	U	0.42	0.120	ug/l	1		E201171-13				
Location Identifier: WT-AC-03-056												
Sample Identifier 2001647	01/09/2002 11:0 Reported			ce Eval								
Sample Identifier 2001647  Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	Result
Sample Identifier 2001647  Chemical Name  PCB-1016 (Arochlor 1016)	Reported Concentration ND<0.40	Qualifiers U	R.L. 0.40	M.D.L. 0.120	Units ug/I	Dil.	Lab PREM	E201296-10	Reference	Upper Limit	Lower Limit	Result
Sample Identifier 2001647  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)	Reported Concentration ND<0.40 ND<0.40	Qualifiers U U	R.L. 0.40 0.40	M.D.L. 0.120 0.120	Units ug/l ug/l	Dil.	Lab. PREM PREM	E201296-10 E201296-10	Reference	Upper Limit	Lower Limit	Result
Sample Identifier 2001647  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)	Reported Concentration ND<0.40 ND<0.40 ND<0.40	Qualifiers U U U	R.L. 0.40 0.40 0.40	M.D.L. 0.120 0.120 0.120	Units ug/l ug/l ug/l	Dil.	Lab. PREM PREM PREM	E201296-10 E201296-10 E201296-10	Reference	Upper Limit	Lower Limit	Result
Sample Identifier 2001647  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)  PCB-1242 (Arochlor 1242)	Reported Concentration ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40	Qualifiers U U U U U	R.L. 0.40 0.40 0.40 0.40	M.D.L. 0.120 0.120 0.120 0.120	Units ug/l ug/l ug/l ug/l	Dil.	PREM PREM PREM PREM	E201296-10 E201296-10 E201296-10 E201296-10	Reference	Upper Limit	Lower Limit	Result
Sample Identifier 2001647  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)  PCB-1242 (Arochlor 1242)  PCB-1248 (Arochlor 1248)	Reported Concentration ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40	Qualifiers U U U	R.L. 0.40 0.40 0.40 0.40 0.40	M.D.L. 0.120 0.120 0.120 0.120 0.120	Units  ug/l  ug/l  ug/l  ug/l  ug/l	Dil.	PREM PREM PREM PREM PREM PREM	E201296-10 E201296-10 E201296-10 E201296-10 E201296-10				
Sample Identifier 2001647  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)  PCB-1242 (Arochlor 1242)  PCB-1248 (Arochlor 1248)  PCB-1254 (Arochlor 1254)	Reported Concentration ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40	Qualifiers  U  U  U  U  U	R.L. 0.40 0.40 0.40 0.40 0.40 0.40	M.D.L. 0.120 0.120 0.120 0.120 0.120 0.120	Units  ug/l  ug/l  ug/l  ug/l  ug/l  ug/l	Dil.	PREM PREM PREM PREM PREM PREM PREM	E201296-10 E201296-10 E201296-10 E201296-10 E201296-10 E201296-10	Reference	Upper Limit	Lower Limit	Result
Sample Identifier 2001647  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)  PCB-1242 (Arochlor 1242)  PCB-1248 (Arochlor 1248)	Reported Concentration ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40	Qualifiers U U U U U	R.L. 0.40 0.40 0.40 0.40 0.40	M.D.L. 0.120 0.120 0.120 0.120 0.120	Units  ug/l  ug/l  ug/l  ug/l  ug/l	Dil.	PREM PREM PREM PREM PREM PREM PREM	E201296-10 E201296-10 E201296-10 E201296-10 E201296-10				
Sample Identifier 2001647  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)  PCB-1242 (Arochlor 1242)  PCB-1248 (Arochlor 1248)  PCB-1254 (Arochlor 1254)	Reported Concentration ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 4.2 ND<0.40	Qualifiers U U U U U U U	R.L. 0.40 0.40 0.40 0.40 0.40 0.40	M.D.L. 0.120 0.120 0.120 0.120 0.120 0.120 0.120	Units ug/l ug/l ug/l ug/l ug/l ug/l ug/l	Dil.  1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM	E201296-10 E201296-10 E201296-10 E201296-10 E201296-10 E201296-10				
Sample Identifier 2001647  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)  PCB-1242 (Arochlor 1242)  PCB-1248 (Arochlor 1248)  PCB-1254 (Arochlor 1254)  PCB-1260 (Arochlor 1260)	Reported Concentration ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40	Qualifiers U U U U U U U	R.L. 0.40 0.40 0.40 0.40 0.40 0.40	M.D.L. 0.120 0.120 0.120 0.120 0.120 0.120	Units ug/l ug/l ug/l ug/l ug/l ug/l ug/l	Dil.  1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM	E201296-10 E201296-10 E201296-10 E201296-10 E201296-10 E201296-10				
Sample Identifier 2001647  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)  PCB-1242 (Arochlor 1242)  PCB-1248 (Arochlor 1248)  PCB-1254 (Arochlor 1254)  PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-03-057	Reported Concentration ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 4.2 ND<0.40	Qualifiers U U U U U U U	R.L. 0.40 0.40 0.40 0.40 0.40 0.40	M.D.L. 0.120 0.120 0.120 0.120 0.120 0.120 0.120	Units  ug/l  ug/l  ug/l  ug/l  ug/l  ug/l  ug/l  ug/l	Dil.  1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM	E201296-10 E201296-10 E201296-10 E201296-10 E201296-10 E201296-10		5.64		Pass
Sample Identifier   2001647	Reported Concentration ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 A2 ND<0.40 4.2 ND<0.40  01/09/2002 11:0 Reported	Qualifiers  U U U U U U P	R.L. 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0	M.D.L. 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120	Units  ug/l  ug/l  ug/l  ug/l  ug/l  ug/l  ug/l  ug/l	Dil.  1 1 1 1 1 1 1 1 1 1 1 Dil.	l.ab.  PREM PREM PREM PREM PREM PREM PREM PRE	E201296-10 E201296-10 E201296-10 E201296-10 E201296-10 E201296-10	4.27	5.64	2.19	Pass
Sample Identifier 2001647  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)  PCB-1242 (Arochlor 1242)  PCB-1248 (Arochlor 1248)  PCB-1254 (Arochlor 1254)  PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-03-057  Sample Identifier 2001648  Chemical Name	Reported Concentration ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 A2 ND<0.40 4.2 ND<0.40  Reported Concentration	Qualifiers  U U U U U U P	R.L. 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0	M.D.L. 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120	Units  ug/l ug/l ug/l ug/l ug/l ug/l ug/l Units  mg/L	Dil.  1 1 1 1 1 1 1 1 1 1 1 Dil.	l.ab.  PREM PREM PREM PREM PREM PREM PREM PRE	E201296-10 E201296-10 E201296-10 E201296-10 E201296-10 E201296-10 E201296-10	4.27 Reference	5.64 Upper Limit 0.369	2.19  Lower Limit	Pass Result
Sample Identifier 2001647  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)  PCB-1242 (Arochlor 1242)  PCB-1248 (Arochlor 1248)  PCB-1254 (Arochlor 1254)  PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-03-057  Sample Identifier 2001648  Chemical Name  Arsenic	Reported Concentration ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 A2 ND<0.40  4.2 ND<0.40  Reported Concentration 0.31	Qualifiers  U U U U U U P	R.L.  0.40 0.40 0.40 0.40 0.40 0.40 0.40	M.D.L. 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120	Units  ug/l ug/l ug/l ug/l ug/l ug/l Units  mg/L 0 mg/L	Dil.  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	l.ab.  PREM PREM PREM PREM PREM PREM PREM PRE	E201296-10 E201296-10 E201296-10 E201296-10 E201296-10 E201296-10 E201296-10	A.27  Reference 0.322	5.64 Upper Limit 0.369	2.19  Lower Limit 0.276	Pass  Result  Pass
Chemical Name  PCB-1016 (Arochlor 1016) PCB-1221 (Arochlor 1221) PCB-1232 (Arochlor 1232) PCB-1242 (Arochlor 1242) PCB-1248 (Arochlor 1248) PCB-1254 (Arochlor 1254) PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-03-057 Sample Identifier 2001648  Chemical Name  Arsenic Barium	Reported Concentration ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 A2 ND<0.40  Concentration 01/09/2002 11:0 Reported Concentration 0.31 0.42	Qualifiers  U U U U U U P	R.L.  0.40 0.40 0.40 0.40 0.40 0.40 0.40	M.D.L.  0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120	Units  ug/l ug/l ug/l ug/l ug/l ug/l Units  mg/L 0 mg/L 0 mg/L	Dil.  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	l.ab.  PREM PREM PREM PREM PREM PREM PREM PRE	E201296-10 E201296-10 E201296-10 E201296-10 E201296-10 E201296-10 E201296-10	4.27  Reference 0.322 0.389	5.64 Upper Limit 0.369 0.430	2.19  Lower Limit 0.276 0.347	Pass  Result  Pass Pass



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Copper	0.28		0.010	0.00087	70 mg/L	1	PREM	E201296-11	0.275	0.306	0.244	Pass	
Lead	0.27		0.004	0 0.00175	mg/L	1	PREM	E201296-11	0.271	0.305	0.238	Pass	
Mercury	0.012		0.000	2(0.00002	22 mg/L	1	PREM	E201296-11	0.0134	0.0168	0.0101	Pass	
Nickel	0.66		0.010	0.00108	mg/L	1	PREM	E201296-11	0.661	0.731	0.590	Pass	
Selenium	0.52		0.010	0.00460	mg/l.	1	PREM	E201296-11	0.524	0.601	0.447	Pass	
Silver	0.24		0.002	0 0.00627	mg/L	1	PREM	E201296-11	0.238	0.267	0.210	Pass	
Zinc	0.92		0.010	0.00198	3 mg/L	1	PREM	E201296-11	0.888	1.000	0.778	Pass	
Location Identifier: WT-AC-03-05 Sample Identifier 2001649	01/09/2002 11:0	)6 Peri	forman	ce Evalı	uation	- Wat	er						
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limi	it	Result
Cyanide	0.64		0.020		mg/L	2	PREM	E201296-12	0.690	0.872	0.478	Pass	
ocation Identifier: WT-AC-03-05	9												
Sample Identifier 2001650	01/09/2002 11:0	9 Peri	forman	ce Evalı	uation	- Wat	er						
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limi	it	Result
	Concentration									-11			
1,2,4-Trichlorobenzene	19		5.4	0.330	ug/l	l	PREM	E201296-13	24.1	27.8	10.9	Pass	
, ,			5.4 5.4	0.330 0.400	ug/l ug/l	i 1		E201296-13 E201296-13					
1,2-Dichlorobenzene	19	U				1 1	PREM		24.1	27.8	10.9	Pass	
1,2-Dichlorobenzene 1,3-Dichlorobenzene	19 76	U	5.4	0.400	ug/l	1 1 1	PREM PREM	E201296-13	24.1	27.8	10.9	Pass	
1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene	19 76 ND<5.4		5.4 5.4	0.400 0.310	ug/l ug/l	1 1 1 1	PREM PREM PREM	E201296-13 E201296-13	24.1	27.8	10.9	Pass	
1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol	19 76 ND<5.4 ND<5.4		5.4 5.4 5.4	0.400 0.310 0.300	ug/l ug/l ug/l	1	PREM PREM PREM PREM	E201296-13 E201296-13 E201296-13	24.1 92.4	27.8 97.0	10.9 32.3	Pass Pass	
1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol	19 76 ND<5.4 ND<5.4		5.4 5.4 5.4 5.4	0.400 0.310 0.300 0.550	ug/l ug/l ug/l	1 1	PREM PREM PREM PREM PREM	E201296-13 E201296-13 E201296-13 E201296-13	24.1 92.4 75.6	27.8 97.0	10.9 32.3 42.2	Pass Pass	
1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4.5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol	19 76 ND<5.4 ND<5.4 71		5.4 5.4 5.4 5.4 5.4	0.400 0.310 0.300 0.550 0.420	ug/l ug/l ug/l ug/l ug/l	1 1	PREM PREM PREM PREM PREM PREM	E201296-13 E201296-13 E201296-13 E201296-13 E201296-13	24.1 92.4 75.6 53.5	27.8 97.0 85.0 61.5	10.9 32.3 42.2 27.2	Pass Pass Pass	
1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4.5-Trichlorophenol 2,4.6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol	19 76 ND<5.4 ND<5.4 71 51		5.4 5.4 5.4 5.4 5.4 5.4	0.400 0.310 0.300 0.550 0.420 0.380	ug/l ug/l ug/l ug/l ug/l	1 1	PREM PREM PREM PREM PREM PREM PREM	E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13	24.1 92.4 75.6 53.5 118	27.8 97.0 85.0 61.5 126	10.9 32.3 42.2 27.2 59.1	Pass Pass Pass Pass Pass	
1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4.5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dinitrophenol	19 76 ND<5.4 ND<5.4 71 51 110		5.4 5.4 5.4 5.4 5.4 5.4 5.4	0.400 0.310 0.300 0.550 0.420 0.380 0.640	ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13	24.1 92.4 75.6 53.5 118 51.3	27.8 97.0 85.0 61.5 126 58.6	10.9 32.3 42.2 27.2 59.1 18.8	Pass Pass Pass Pass Pass Pass	
1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4.5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dinitrophenol 2,4-Dinitrotoluene	19 76 ND<5.4 ND<5.4 71 51 110 42		5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4	0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13	24.1 92.4 75.6 53.5 118 51.3 138	27.8 97.0 85.0 61.5 126 58.6 148	10.9 32.3 42.2 27.2 59.1 18.8 24.1	Pass Pass Pass Pass Pass Pass	
1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4.5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimitrophenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene	19 76 ND<5.4 ND<5.4 71 51 110 42 110 100	Ü	5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4	0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700 0.600	ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13	24.1 92.4 75.6 53.5 118 51.3 138	27.8 97.0 85.0 61.5 126 58.6 148	10.9 32.3 42.2 27.2 59.1 18.8 24.1	Pass Pass Pass Pass Pass Pass	
1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4.5-Trichlorophenol 2,4-6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2,-Chloronaphthalene	19 76 ND<5.4 ND<5.4 71 51 110 42 110 100 ND<5.4	Ü	5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4	0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700 0.600 0.530	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13	24.1 92.4 75.6 53.5 118 51.3 138 105	27.8 97.0 85.0 61.5 126 58.6 148 124	10.9 32.3 42.2 27.2 59.1 18.8 24.1 59.2	Pass Pass Pass Pass Pass Pass Pass Pass	
1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Chloronaphthalene 2-Chlorophenol	19 76 ND<5.4 ND<5.4 71 51 110 42 110 100 ND<5.4	Ü	5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4	0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700 0.600 0.530 0.510	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13	24.1 92.4 75.6 53.5 118 51.3 138 105	27.8 97.0 85.0 61.5 126 58.6 148 124	10.9 32.3 42.2 27.2 59.1 18.8 24.1 59.2 9.85	Pass Pass Pass Pass Pass Pass Pass Pass	
1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4.5-Trichlorophenol 2,4.6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dinitrophenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Chloronaphthalene 2-Chlorophenol 2-Methylnaphthalene	19 76 ND<5.4 ND<5.4 71 51 110 42 110 100 ND<5.4 16 52	U	5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4	0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700 0.600 0.530 0.510	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13	24.1 92.4 75.6 53.5 118 51.3 138 105	27.8 97.0 85.0 61.5 126 58.6 148 124	10.9 32.3 42.2 27.2 59.1 18.8 24.1 59.2 9.85	Pass Pass Pass Pass Pass Pass Pass Pass	
1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4.5-Trichlorophenol 2,4.6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Chloronaphthalene 2-Chlorophenol 2-Methylphenol (o-Cresol)	19 76 ND<5.4 ND<5.4 71 51 110 42 110 100 ND<5.4 16 52 ND<5.4	U	5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4	0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700 0.530 0.510 0.400 0.430	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13	24.1 92.4 75.6 53.5 118 51.3 138 105 18.5 62.0	27.8 97.0 85.0 61.5 126 58.6 148 124 22.9 68.7	10.9 32.3 42.2 27.2 59.1 18.8 24.1 59.2 9.85 29.1	Pass Pass Pass Pass Pass Pass Pass Pass	
1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4.5-Trichlorophenol 2,4.6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dinitrophenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Chloronaphthalene 2-Chlorophenol 2-Methylnaphthalene 2-Methylphenol (o-Cresol) 2-Nitroaniline	19 76 ND<5.4 ND<5.4 71 51 110 42 110 100 ND<5.4 16 52 ND<5.4 22	U U	5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4	0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700 0.530 0.510 0.400 0.430	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13	24.1 92.4 75.6 53.5 118 51.3 138 105 18.5 62.0	27.8 97.0 85.0 61.5 126 58.6 148 124 22.9 68.7	10.9 32.3 42.2 27.2 59.1 18.8 24.1 59.2 9.85 29.1	Pass Pass Pass Pass Pass Pass Pass Pass	
1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4-G-Trichlorophenol 2,4-Dichlorophenol 2,4-Dichlorophenol 2,4-Dinitrophenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Chloronaphthalene 2-Chlorophenol 2-Methylnaphthalene 2-Methylphenol (o-Cresol) 2-Nitroaniline 2-Nitrophenol	19 76 ND<5.4 ND<5.4 71 51 110 42 110 100 ND<5.4 16 52 ND<5.4 22 ND<27	U U	5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4	0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700 0.530 0.510 0.400 0.430 0.420	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13	24.1 92.4 75.6 53.5 118 51.3 138 105 18.5 62.0 28.9	27.8 97.0 85.0 61.5 126 58.6 148 124 22.9 68.7 33.0	10.9 32.3 42.2 27.2 59.1 18.8 24.1 59.2 9.85 29.1	Pass Pass Pass Pass Pass Pass Pass Pass	
1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dinitrophenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Chloronaphthalene 2-Chlorophenol 2-Methylnaphthalene 2-Methylphenol (o-Cresol) 2-Nitroaniline 2-Nitrophenol 3,3'-Dichlorobenzidine	19 76 ND<5.4 ND<5.4 71 51 110 42 110 100 ND<5.4 16 52 ND<5.4 22 ND<5.4 21 ND<5.4	U U U U	5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4	0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700 0.530 0.510 0.400 0.430 0.420 0.550 0.420 0.730	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13	24.1 92.4 75.6 53.5 118 51.3 138 105 18.5 62.0 28.9	27.8 97.0 85.0 61.5 126 58.6 148 124 22.9 68.7 33.0	10.9 32.3 42.2 27.2 59.1 18.8 24.1 59.2 9.85 29.1	Pass Pass Pass Pass Pass Pass Pass Pass	
1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dinitrophenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Chloronaphthalene 2-Chlorophenol 2-Methylnaphthalene 2-Methylphenol (o-Cresol) 2-Nitroaniline 2-Nitrophenol 3,3'-Dichlorobenzidine 3-Nitroaniline 4,6-Dinitro-2-Methylphenol	19 76 ND<5.4 ND<5.4 71 51 110 42 110 100 ND<5.4 16 52 ND<5.4 22 ND<27	U U U	5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4	0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700 0.530 0.510 0.400 0.430 0.420 0.550	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13 E201296-13	24.1 92.4 75.6 53.5 118 51.3 138 105 18.5 62.0 28.9	27.8 97.0 85.0 61.5 126 58.6 148 124 22.9 68.7 33.0	10.9 32.3 42.2 27.2 59.1 18.8 24.1 59.2 9.85 29.1	Pass Pass Pass Pass Pass Pass Pass Pass	



Page 33									Lou	reiro Engine	eering Associa	ates, Inc.
4-Chloro-3-Methylphenol	64		5.4	0.440	ug/l	1	PREM E201296-13	66.4	75.4	35.1	Pass	
4-Chloroaniline	ND<11	U	11	0.410	ug/l	1	PREM E201296-13					
4-Chlorophenyl Phenyl ether	84		5.4	0.540	ug/l	1	PREM E201296-13	86.9	97.6	46.5	Pass	
4-Nitroaniline	ND<11	U	11	0.480	ug/l	1	PREM E201296-13					
4-Nitrophenol	33		5.4	0.290	ug/l	1	PREM E201296-13	64.6	73.9	0	Pass	
Acenaphthene	ND<5.4	U	5.4	0.450	ug/l	1	PREM E201296-13					
Acenaphthylene	15		5.4	0.470	ug/l	1	PREM E201296-13	18.3	21.3	9.34	Pass	
Anthracene	19		5.4	0.560	ug/l	1	PREM E201296-13	20.6	23.3	11.2	Pass	
Benzo(a)anthracene	20		5.4	0.420	ug/l	1	PREM E201296-13	25.0	26.2	17.2	Pass	
Benzo(a)pyrene	ND<5.4	U	5.4	0.350	ug/l	1	PREM E201296-13					
Benzo(b)fluoranthene	12		5.4	0.400	ug/l	1	PREM E201296-13	15.1	17.9	8.61	Pass	
Benzo(g,h,i)perylene	ND<5.4	U	5.4	0.420	ug/l	1	PREM E201296-13					
Benzo(k)fluoranthene	ND<5.4	U	5.4	0.360	ug/l	1	PREM E201296-13					
Benzyl Butyl Phthalate	110		5.4	0.460	ug/i	1	PREM E201296-13	111	123	45.1	Pass	
Carbazole	ND<5.4	U	5.4		ug/l	1	PREM E201296-13					
Chrysene	23		5.4	0.440	ug/l	1	PREM E201296-13	25.3	28.8	16.0	Pass	
Cresol,m- & p-	ND<5.4	U	5.4	0.740	ug/l	1	PREM E201296-13					
Dibenz(a,h)anthracene	ND<5.4	U	5.4	0.370	ug/l	1	PREM E201296-13					
Dibenzofuran	59		11	0.480	ug/l	1	PREM E201296-13	64.9	70.1	34.9	Pass	
Diethyl Phthalate	140		5.4	0.660	ug/l	1	PREM E201296-13	142	169	51.5	Pass	
Dimethyl Phthalate	13		5.4	0.600	ug/l	1	PREM E201296-13	14.5	17.1	5.54	Pass	
Fluoranthene	18		5.4	0.480	ug/l	1	PREM E201296-13	19.8	22.7	13.6	Pass	
Fluorene	36		5.4	0.540	ug/l	1	PREM E201296-13	39.4	45.6	22.5	Pass	
Hexachlorobenzene	ND<5.4	U	5.4	0.550	ug/l	1	PREM E201296-13					
Hexachlorobutadiene	ND<5.4	U	5.4	0.320	ug/l	1	PREM E201296-13					
Hexachlorocyclopentadiene	ND<5.4	U	5.4	0.250	ug/l	1	PREM E201296-13					
Hexachloroethane	ND<5.4	U	5.4	0.270	ug/i	1	PREM E201296-13					
Indeno(1,2,3-c,d)pyrene	13		5.4	0.400	ug/l	1	PREM E201296-13	20.0	21.0	9.27	Pass	
Isophorone	56		5.4	0.440	ug/l	1	PREM E201296-13	58.1	67.3	31.0	Pass	
Naphthalene	120		5.4	0.390	ug/l	1	PREM E201296-13	139	156	58.2	Pass	
Nitrobenzene	83		5.4	0.380	ug/l	1	PREM E201296-13	98.0	112	48.1	Pass	
Pentachlorophenol	75		5.4	0.380	ug/l	1	PREM E201296-13	78.0	92.9	33.3	Pass	
Phenanthrene	22		5.4	0.560	ug/l	1	PREM E201296-13	24.4	27.3	14.5	Pass	
Phenol	54		5.4	0.360	ug/l	1	PREM E201296-13	134	145	29.7	Pass	
Pyrene	28		5.4	0.390	ug/l	1	PREM E201296-13	30.2	39.3	15.6	Pass	
bis(2-Chloroethoxy) Methane	81		5.4	0.460	ug/l	1	PREM E201296-13	118	124	62.2	Pass	
bis(2-Chloroethyl) ether (2-Chloroethyl	ND<5.4	U	5.4	0.350	ug/l	1	PREM E201296-13					
bis(2-Chloroisopropyl) ether	ND<11	U	11	0.310	ug/l	I	PREM E201296-13					
bis(2-Ethylhexyl) Phthalate	20		5.4	1.77	ug/l	1	PREM E201296-13	20.9	26.6	14.1	Pass	
di-n-Butyl Phthalate	ND<5.4	U	5.4	1.14	ug/l	1	PREM E201296-13					



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Page 34										Loureir	o Engineeri	ing Associates
li-n-Octylphthalate	61		5.4	0.500	ug/l	1	PREM	E201296-13	61.1	77.2	24.7	Pass
-Nitrosodi-n-Propylamine	ND<5.4	U	5.4	0.580	ug/i	1	PREM	E201296-13				
n-Nitrosodiphenylamine	37		5.4	0.640	ug/l	1	PREM	E201296-13	49.7	80.1	21.0	Pass
ocation Identifier: WT-AC-03-060 Sample Identifier 2001651	01/09/2002 11:1	2 Per	formar	ice Eval	uation -	- Wate	er					
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	t Result
Total Petroleum Hydrocarbons EPA 418.1	56		2.0	0.750	mg/l	5	PREM	E201296-14	47.4	59.2	28.4	Pass
ocation Identifier: WT-AC-03-061 Sample Identifier 2001652	01/09/2002 11:1	5 Per	formar	ice Eval	uation -	- Wate	er					
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	t Result
,1,1-Trichloroethane	40		5.0	0.184	ug/l	1	PREM	E201296-15	39.6	47.8	30.1	Pass
1,2,2-Tetrachloroethane	160		5.0	0.243	ug/l	1	PREM	E201296-15	133	168	96.2	Pass
,1,2-Trichloroethane	ND<5.0	U	5.0	0.175	ug/l	1	PREM	E201296-15				
1-Dichloroethane	ND<5.0	U	5.0	0.228	ug/l	1	PREM	E201296-15				
,1-Dichloroethene	ND<5.0	U	5.0	0.274	ug/l	l	PREM	E201296-15				
,2-Dichloroethane	73		5.0	0.288	ug/l	1	PREM	E201296-15	73.8	90.0	58.7	Pass
2-Dichloropropane	68		5.0	0.234	ug/l	1	PREM	E201296-15	64.5	75.5	50.3	Pass
-Hexanone	ND<10	U	10	1.88	ug/l	1	PREM	E201296-15				
cetone	ND<20	U	20	2.65	ug/l	1	PREM	E201296-15				
enzene	33		5.0	0.184	ug/l	1	PREM	E201296-15	30.1	36.1	24.4	Pass
romodichloromethane	58		5.0	0.172	ug/l	1	PREM	E201296-15	55.3	66.5	44.7	Pass
romoform	71		5.0	0.127	ug/l	1	PREM	E201296-15	66.4	82.9	51.5	Pass
fromomethane	ND<5.0	U	5.0	0.167	ug/l	1	PREM	E201296-15				
Carbon Disulfide	ND<5.0	U	5.0	0.498	ug/l	1	PREM	E201296-15				
arbon Tetrachloride	35		5.0	0.228	ug/l	1	PREM	E201296-15	33.9	43.4	25.5	Pass
hlorobenzene	15		5.0	0.157	ug/l	1	PREM	E201296-15	14.4	16.9	12.0	Pass
Chloroethane	ND<5.0	U	5.0	0.525	ug/l	I	PREM	E201296-15				
hloroform	15		5.0	0.226	ug/l	1	PREM	E201296-15	13.8	16.6	11.2	Pass
hloromethane	ND<5.0	υ	5.0	0.148	ug/l	i	PREM	E201296-15				
ibromochloromethane	46		5.0	0.156	ug/l	1	PREM	E201296-15	43.5	52.9	33.6	Pass
thylbenzene	29		5.0	0.176	ug/l	I	PREM	E201296-15	27.1	32.4	21.1	Pass
fethyl Ethyl ketone (2-Butanone)	ND<10	U	10	1.94	ug/l	1		E201296-15		-	• •	<del>-</del>
lethyl Isobutyl ketone (4-Methyl-2-Penta	63		10	1.89	ug/l	1		E201296-15	59.8	75.9	35.1	Pass
- ,												
Methylene Chloride	27		5.0	0.789	ug/l	1	PREM	E201296-15	27.6	35.2	21.1	Pass



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Page 35											Loureir	o Engineer	ing As	sociates,
Tetrachloroethylene (PCE)	4	7		5.0	0.171	ug/l	l	PREM	E201296-15	50.3	59.3	38.5	Pass	
Toluene	4	12		5.0	0.188	ug/l	1	PREM	E201296-15	40.2	46.7	32.4	Pass	
Trichloroethylene (TCE)	2	.4		5.0	0.220	ug/l	1	PREM	E201296-15	24.8	29.5	18.9	Pass	
Vinyl Chloride	N	ND<5.0	U	5.0	0.111	ug/l	1	PREM	E201296-15					
cis-1,3-Dichloropropene	N	1D<5.0	U	5.0	0.139	ug/l	i	PREM	E201296-15					
m,p-Xylene (Sum of Isomers)	N	1D<5.0	U	5.0	0.424	ug/l	1	PREM	E201296-15					
o-Xylene (1,2-Dimethylbenzene)	N	ND<5.0	U	5.0	0.171	ug/i	1	PREM	E201296-15					
trans-1,3-Dichloropropene	N	1D<5.0	U	5.0	0.0680	ug/l	i	PREM	E201296-15					
Location Identifier: WT-AC-0	03-062													
Sample Identifier 20016	90 01/15/20	002 13:0	0 Per	rforman	ce Evalu	uation	- Wat	er		,,				
Chemical Name		eported oncentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limi	t	Result
PCB-1016 (Arochlor 1016)		ID<0.40	U	0.40	0.120	ug/l	1	PREM	E201509-17					
PCB-1221 (Arochlor 1221)	N	ID<0.40	U	0.40	0.120	ug/l	1		E201509-17					
PCB-1232 (Arochlor 1232)	N	ID<0.40	U	0.40	0.120	ug/l	1		E201509-17					
PCB-1242 (Arochlor 1242)	N	ID<0.40	U	0.40	0.120	ug/l	1	PREM	E201509-17					
•	ν.	ID<0.40	U	0.40	0.120	ug/l	1		E201509-17					
PCB-1248 (Arocnior 1248)	IN IN													
PCB-1248 (Arochlor 1248) PCB-1254 (Arochlor 1254)		.1	•	0.40	0.120	-	1		E201509-17	2.90	3.83	1.48	Pass	
PCB-1254 (Arochlor 1254) PCB-1260 (Arochlor 1260)	3 N		U			ug/l ug/l	1 1	PREM		2.90	3.83	1.48	Pass	
PCB-1254 (Arochlor 1254) PCB-1260 (Arochlor 1260)	3 N 03-063 07 01/16/20	.1 ND<0.40 002 13:0	U	0.40 0.40	0.120	ug/l ug/l	l l Wate	PREM PREM	E201509-17	2.90	3.83	1.48	Pass	
PCB-1254 (Arochlor 1254) PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-0	3 N 03-063 07 01/16/20 Re	.1 ND<0.40	U	0.40 0.40	0.120 0.120	ug/l ug/l uation	l l Wate	PREM PREM	E201509-17	2.90 Reference	3.83 Upper Limit			Result
PCB-1254 (Arochlor 1254) PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-0 Sample Identifier 20017	3 N 03-063 007 01/16/20 R C	.1 ND<0.40 002 13:0 eported	U 0 Per	0.40 0.40 forman	0.120 0.120 ce Evalu	ug/l ug/l uation		PREM PREM er	E201509-17 E201509-17					Result
PCB-1254 (Arochlor 1254) PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-0 Sample Identifier 20017  Chemical Name	3 N 03-063 007 01/16/20 R C:	.1 ND<0.40 002 13:0 eported oncentration	U O Per Qualifiers	0.40 0.40 Fforman R.L.	0.120 0.120 ce Evalu M.D.L.	ug/l ug/l uation		PREM PREM er Lab.	E201509-17 E201509-17 Lab. Number					Result
PCB-1254 (Arochlor 1254) PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-0 Sample Identifier 20017  Chemical Name PCB-1016 (Arochlor 1016)	3 N 03-063 07 01/16/20 Rc Cc	.1 ID<0.40 002 13:0 eported oncentration ID<0.39	U O Per Qualifiers U	0.40 0.40 Forman R.L. 0.39	0.120 0.120 ce Evalu M.D.L. 0.120	ug/l ug/l uation Units ug/l		PREM PREM Lab. PREM PREM PREM	E201509-17 E201509-17 Lab. Number E201566-8					Result
PCB-1254 (Arochlor 1254) PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-0 Sample Identifier 20017  Chemical Name PCB-1016 (Arochlor 1016) PCB-1221 (Arochlor 1221)	3 N 03-063 007 01/16/20 Re Co	.1 ID<0.40 002 13:0 eported oncentration ID<0.39 ID<0.39	U O Per Qualifiers U U	0.40 0.40 Forman R.L. 0.39 0.39	0.120 0.120 ce Evalu M.D.L. 0.120 0.120	ug/l ug/l uation Units ug/l ug/l		PREM PREM PREM PREM PREM	E201509-17 E201509-17 Lab. Number E201566-8 E201566-8					Result
PCB-1254 (Arochlor 1254) PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-0 Sample Identifier 20017  Chemical Name PCB-1016 (Arochlor 1016) PCB-1221 (Arochlor 1221) PCB-1232 (Arochlor 1232)	3 N 03-063 007 01/16/20 Re Co	.1 ID<0.40 002 13:0 eported oncentration ID<0.39 ID<0.39 ID<0.39	U Per Qualifiers U U U	0.40 0.40 Fforman R.L. 0.39 0.39 0.39	0.120 0.120 ce Evalu M.D.L. 0.120 0.120 0.120	ug/l ug/l uation Units ug/l ug/l ug/l		PREM PREM er Lab. PREM PREM PREM PREM	E201509-17 E201509-17 Lab. Number E201566-8 E201566-8					Result
PCB-1254 (Arochlor 1254) PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-0 Sample Identifier 20017  Chemical Name PCB-1016 (Arochlor 1016) PCB-1221 (Arochlor 1221) PCB-1232 (Arochlor 1232) PCB-1242 (Arochlor 1242)	3 N 03-063 07 01/16/20 Re Co	.1 ID<0.40 002 13:0 eported oncentration ID<0.39 ID<0.39 ID<0.39 ID<0.39	U Per Qualifiers U U U U U	0.40 0.40 Fforman R.L. 0.39 0.39 0.39 0.39	0.120 0.120 ce Evalu M.D.L. 0.120 0.120 0.120 0.120	ug/l ug/l uation Units ug/l ug/l ug/l	Dil. 1 1 1 1	PREM PREM  Lab.  PREM PREM PREM PREM PREM PREM PREM PREM	E201509-17 E201509-17 Lab. Number E201566-8 E201566-8 E201566-8 E201566-8					Result
PCB-1254 (Arochlor 1254) PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-0 Sample Identifier 20017  Chemical Name  PCB-1016 (Arochlor 1016) PCB-1221 (Arochlor 1221) PCB-1232 (Arochlor 1232) PCB-1242 (Arochlor 1242) PCB-1248 (Arochlor 1248) PCB-1254 (Arochlor 1254)	3 N 03-063 07 01/16/20 Re Co N N N N N	.1 ID<0.40 002 13:0 eported oncentration ID<0.39 ID<0.39 ID<0.39 ID<0.39 ID<0.39	U Per Qualifiers U U U U U	0.40 0.40 rforman R.L. 0.39 0.39 0.39 0.39 0.39	0.120 0.120 ce Evalu M.D.L. 0.120 0.120 0.120 0.120 0.120	ug/l ug/l uation Units ug/l ug/l ug/l ug/l ug/l	Dil. 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E201509-17 E201509-17 Lab. Number E201566-8 E201566-8 E201566-8 E201566-8	Reference	Upper Limit	Lower Limi	t	Result
PCB-1254 (Arochlor 1254) PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-0 Sample Identifier 20017  Chemical Name  PCB-1016 (Arochlor 1016) PCB-1221 (Arochlor 1221) PCB-1232 (Arochlor 1232) PCB-1242 (Arochlor 1242) PCB-1248 (Arochlor 1248) PCB-1254 (Arochlor 1254) PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-0 Sample Identifier 20017	3 N N N N 107 01/16/20 R C N N N N N N N N N N N N N	.1 ID<0.40	U  O Per Qualifiers U U U U U  O  O  O  O  O  O  O  O  O  O	0.40 0.40 rforman R.L. 0.39 0.39 0.39 0.39 0.39 0.39	0.120 0.120 ce Evalu M.D.L. 0.120 0.120 0.120 0.120 0.120 0.120	ug/l ug/l uation Units ug/l ug/l ug/l ug/l ug/l ug/l ug/l	Dil.  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E201509-17 E201509-17 Lab. Number E201566-8 E201566-8 E201566-8 E201566-8 E201566-8 E201566-8	Reference	Upper Limit 7.02	Lower Limit	Pass	
PCB-1254 (Arochlor 1254) PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-0 Sample Identifier 20017  Chemical Name PCB-1016 (Arochlor 1016) PCB-1221 (Arochlor 1221) PCB-1232 (Arochlor 1232) PCB-1242 (Arochlor 1242) PCB-1248 (Arochlor 1248) PCB-1254 (Arochlor 1254) PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-0	3 N N N N 107 01/16/20 R C N N N N N N N N N N N N N	.1 ID<0.40 002 13:0 eported oncentration ID<0.39 ID<0.39 ID<0.39 ID<0.39 ID<0.39	U  Qualifiers  U  U  U  U  U  U	0.40 0.40 7forman R.L. 0.39 0.39 0.39 0.39 0.39 0.39	0.120 0.120 ce Evalu M.D.L. 0.120 0.120 0.120 0.120 0.120 0.120	ug/l ug/l uation Units ug/l ug/l ug/l ug/l ug/l ug/l ug/l	Dil.  1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E201509-17 E201509-17 Lab. Number E201566-8 E201566-8 E201566-8 E201566-8 E201566-8 E201566-8	Reference	Upper Limit 7.02 Upper Limit	Lower Limit	Pass	Result
PCB-1254 (Arochlor 1254) PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-0 Sample Identifier 20017  Chemical Name  PCB-1016 (Arochlor 1016) PCB-1221 (Arochlor 1221) PCB-1232 (Arochlor 1232) PCB-1242 (Arochlor 1242) PCB-1248 (Arochlor 1248) PCB-1254 (Arochlor 1254) PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-0 Sample Identifier 20017	3 N N N N N N N N N N N N N N N N N N N	.1 ID<0.40	U  O Per Qualifiers U U U U U  O  O  O  O  O  O  O  O  O  O	0.40 0.40 rforman R.L. 0.39 0.39 0.39 0.39 0.39 0.39	0.120 0.120 ce Evalu M.D.L. 0.120 0.120 0.120 0.120 0.120 0.120	ug/l ug/l uation Units ug/l ug/l ug/l ug/l ug/l ug/l ug/l	Dil.  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E201509-17 E201509-17 Lab. Number E201566-8 E201566-8 E201566-8 E201566-8 E201566-8 E201566-8	Reference	Upper Limit 7.02	Lower Limit	Pass	



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Cadmium	0.040		0.0020	0.000320	mg/L	1 P	PREM	E201566-9	.042	.049	.035	Pass
Chromium, Total	0.19		0.010	0.000740	mg/L	I P	PREM	E201566-9	.194	.221	.167	Pass
Copper	0.14			0.000870		1 P	PREM	E201566-9	.130	.146	.115	Pass
Lead	0.26			0.00175		1 P	REM	E201566-9	.261	.298	.223	Pass
Mercury	0.0025		0.0002	2(0.000022	mg/L	1 P	PREM	E201566-9	.0028	.0035	.0021	Pass
Nickel	0.15		0.010	0.00108	mg/L	1 P	REM	E201566-9	.153	.175	.132	Pass
Selenium	0.24		0.010	0.00460	mg/L	1 P	PREM	E201566-9	.231	.269	.180	Pass
Silver	0.30		0.0020	0.00627	mg/L	1 P	REM	E201566-9	0.308	0.353	0.264	Pass
Zinc	0.14		0.010	0.00198	mg/L	1 P	REM	E201566-9	.114	0.128	0.0998	FAIL
Location Identifier: WT-AC-03	3-065											
Sample Identifier 200170		06 Perf	forman	ce Evalua	ation -	Water						
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil. L	∟ab.	Lab. Number	Reference	Upper Limit	Lower Limi	it Result
Cyanide	0.34		0.010		mg/L	I P	REM	E201566-10	0.374	0.475	0.259	Pass
Location Identifier: WT-AC-03	2 066							•				
Sample Identifier 200171		09 Peri	forman	ce Evalua	ation -	Water						
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L. U	Units	Dil. L	.ab.	Lab. Number	Reference	Upper Limit	Lower Limi	t Result
1,2,4-Trichlorobenzene	71		4.9	0.330	ug/l	l P	REM	E201566-11	112	118	49.5	Pass
1,2,4-Trichlorobenzene 1,2-Dichlorobenzene	71 19		4.9 4.9		ug/l ug/l			E201566-11 E201566-11	112 30.8	118 33.3	<b>49.5</b> 0	Pass Pass
• •		U		0.400	ug/l	1 P	REM					
1,2-Dichlorobenzene	19	U U	4.9	0.400 0.310	ug/l ug/l	1 P 1 P	REM REM	E201566-11 E201566-11				
1,2-Dichlorobenzene 1,3-Dichlorobenzene	19 ND<4.9		4.9 4.9	0.400 0.310 0.300	ug/l ug/l	1 P 1 P 1 P	REM REM REM	E201566-11 E201566-11				
1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene	19 ND<4.9 ND<4.9		4.9 4.9 4.9	0.400 0.310 0.300 0.550	ug/l ug/l ug/l	1 P 1 P 1 P 1 P	REM REM REM REM	E201566-11 E201566-11 E201566-11	30.8	33.3	0	Pass
1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol	19 ND<4.9 ND<4.9 68		4.9 4.9 4.9 4.9	0.400 0.310 0.300 0.550 0.420	ug/l ug/l ug/l ug/l	1 P 1 P 1 P 1 P 1 P	REM PREM PREM PREM PREM PREM	E201566-11 E201566-11 E201566-11 E201566-11	30.8	33.3 94.2	0 46.0	Pass Pass
1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol	19 ND<4.9 ND<4.9 68 54		4.9 4.9 4.9 4.9 4.9	0.400 0.310 0.300 0.550 0.420 0.380	ug/l ug/l ug/l ug/l ug/l	1 P 1 P 1 P 1 P 1 P 1 P	PREM PREM PREM PREM PREM PREM	E201566-11 E201566-11 E201566-11 E201566-11 E201566-11	30.8 83.8 76.1	33.3 94.2 87.8	0 46.0 38.1	Pass Pass Pass
1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol	19 ND<4.9 ND<4.9 68 54 36		4.9 4.9 4.9 4.9 4.9	0.400 0.310 0.300 0.550 0.420 0.380 0.640	ug/l ug/l ug/l ug/l ug/l ug/l	1 P 1 P 1 P 1 P 1 P 1 P 1 P	PREM PREM PREM PREM PREM PREM PREM	E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11	30.8 83.8 76.1 49.0	33.3 94.2 87.8 53.9	0 46.0 38.1 25.0	Pass Pass Pass Pass
1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol	19 ND<4.9 ND<4.9 68 54 36 73		4.9 4.9 4.9 4.9 4.9 4.9	0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700	ug/l ug/l ug/l ug/l ug/l ug/l	1 P 1 P 1 P 1 P 1 P 1 P 1 P 1 P	PREM PREM PREM PREM PREM PREM PREM PREM	E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11	30.8 83.8 76.1 49.0 113	94.2 87.8 53.9 128	0 46.0 38.1 25.0 44.8	Pass Pass Pass Pass Pass
1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dinitrophenol	19 ND<4.9 ND<4.9 68 54 36 73		4.9 4.9 4.9 4.9 4.9 4.9 4.9	0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700 0.600	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 P 1 P 1 P 1 P 1 P 1 P 1 P 1 P 1 P	PREMPREMPREMPREMPREMPREMPREMPREMPREMPREM	E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11	30.8 83.8 76.1 49.0 113 145	94.2 87.8 53.9 128 155	0 46.0 38.1 25.0 44.8 25.0	Pass Pass Pass Pass Pass Pass Pass
1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dimitrophenol 2,4-Dinitrophenol 2,4-Dinitrotoluene	19 ND<4.9 ND<4.9 68 54 36 73 90 35		4.9 4.9 4.9 4.9 4.9 4.9 4.9 4.9	0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700 0.600 0.530	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 P 1 P 1 P 1 P 1 P 1 P 1 P 1 P 1 P 1 P	PREM PREM PREM PREM PREM PREM PREM PREM	E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11	30.8 83.8 76.1 49.0 113 145 48.2	33.3 94.2 87.8 53.9 128 155 55.6	0 46.0 38.1 25.0 44.8 25.0 24.5	Pass Pass Pass Pass Pass Pass Pass Pass
1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dimitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene	19 ND<4.9 ND<4.9 68 54 36 73 90 35 68		4.9 4.9 4.9 4.9 4.9 4.9 4.9 4.9	0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700 0.600 0.530 0.510	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 P 1 P 1 P 1 P 1 P 1 P 1 P 1 P 1 P 1 P	PREMPREMPREMPREMPREMPREMPREMPREMPREMPREM	E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11	30.8 83.8 76.1 49.0 113 145 48.2 92.5	33.3 94.2 87.8 53.9 128 155 55.6 107	0 46.0 38.1 25.0 44.8 25.0 24.5 49.6	Pass Pass Pass Pass Pass Pass Pass Pass
1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4-6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dimitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Chloronaphthalene	19 ND<4.9 ND<4.9 68 54 36 73 90 35 68 130		4.9 4.9 4.9 4.9 4.9 4.9 4.9 4.9 4.9	0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700 0.600 0.530 0.510 0.400	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 P 1 P 1 P 1 P 1 P 1 P 1 P 1 P 1 P 1 P	PREMPREMPREMPREMPREMPREMPREMPREMPREMPREM	E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11	30.8 83.8 76.1 49.0 113 145 48.2 92.5 177	33.3 94.2 87.8 53.9 128 155 55.6 107 186	0 46.0 38.1 25.0 44.8 25.0 24.5 49.6 92.6	Pass Pass Pass Pass Pass Pass Pass Pass
1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4-Crichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Chlorophenol	19 ND<4.9 ND<4.9 68 54 36 73 90 35 68 130 110	U	4.9 4.9 4.9 4.9 4.9 4.9 4.9 4.9 4.9 4.9	0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700 0.600 0.530 0.510 0.400 0.430	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 P 1 P 1 P 1 P 1 P 1 P 1 P 1 P 1 P 1 P	PREMPREMPREMPREMPREMPREMPREMPREMPREMPREM	E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11	30.8 83.8 76.1 49.0 113 145 48.2 92.5 177	33.3 94.2 87.8 53.9 128 155 55.6 107 186	0 46.0 38.1 25.0 44.8 25.0 24.5 49.6 92.6	Pass Pass Pass Pass Pass Pass Pass Pass
1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4-Crichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Chlorophenol 2-Methylnaphthalene	19 ND<4.9 ND<4.9 68 54 36 73 90 35 68 130 110 ND<4.9	U	4.9 4.9 4.9 4.9 4.9 4.9 4.9 4.9 4.9 4.9	0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700 0.600 0.530 0.510 0.400 0.430 0.420	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 P 1 P 1 P 1 P 1 P 1 P 1 P 1 P 1 P 1 P	PREMPREMPREMPREMPREMPREMPREMPREMPREMPREM	E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11	30.8 83.8 76.1 49.0 113 145 48.2 92.5 177 170	94.2 87.8 53.9 128 155 55.6 107 186 185	0 46.0 38.1 25.0 44.8 25.0 24.5 49.6 92.6 75.3	Pass Pass Pass Pass Pass Pass Pass Pass
1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4-Carichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Chlorophenol 2-Methylnaphthalene 2-Methylphenol (o-Cresol)	19 ND<4.9 ND<4.9 68 54 36 73 90 35 68 130 110 ND<4.9 42	U	4.9 4.9 4.9 4.9 4.9 4.9 4.9 4.9 4.9 4.9	0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700 0.600 0.530 0.510 0.400 0.430 0.420 0.550	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 P 1 P 1 P 1 P 1 P 1 P 1 P 1 P 1 P 1 P	PREMPREMPREMPREMPREMPREMPREMPREMPREMPREM	E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11	30.8 83.8 76.1 49.0 113 145 48.2 92.5 177 170	94.2 87.8 53.9 128 155 55.6 107 186 185	0 46.0 38.1 25.0 44.8 25.0 24.5 49.6 92.6 75.3	Pass Pass Pass Pass Pass Pass Pass Pass
1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4-G-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimitrophenol 2,4-Dimitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Chlorophenol 2-Methylnaphthalene 2-Methylphenol (o-Cresol) 2-Nitroaniline	19 ND<4.9 ND<4.9 68 54 36 73 90 35 68 130 110 ND<4.9 42 ND<9.8	U	4.9 4.9 4.9 4.9 4.9 4.9 4.9 4.9 4.9 4.9	0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700 0.600 0.530 0.510 0.400 0.430 0.420 0.550 0.420	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 P 1 P 1 P 1 P 1 P 1 P 1 P 1 P 1 P 1 P	REM PREM PREM PREM PREM PREM PREM PREM P	E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11 E201566-11	30.8 83.8 76.1 49.0 113 145 48.2 92.5 177 170	94.2 87.8 53.9 128 155 55.6 107 186 185	0 46.0 38.1 25.0 44.8 25.0 24.5 49.6 92.6 75.3	Pass Pass Pass Pass Pass Pass Pass Pass



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4,6-Dinitro-2-Methylphenol	52		4.9		ug/l	1	PREM E201566-11	72.8	82.5	29.7	Pass	
4-Bromophenyl Phenyl ether	140		4.9	0.530	ug/l	I	PREM E201566-11	177	201	99.4	Pass	
4-Chloro-3-Methylphenol	ND<4.9	U	4.9	0.440	ug/l	1	PREM E201566-11					
4-Chloroaniline	ND<9.8	U	9.8	0.410	ug/l	1	PREM E201566-11					
4-Chlorophenyl Phenyl ether	ND<4.9	U	4.9	0.540	ug/l	1	PREM E201566-11					
4-Nitroaniline	ND<9.8	U	9.8	0.480	ug/l	1	PREM E201566-11					
4-Nitrophenol	21		4.9	0.290	ug/l	1	PREM E201566-11	60.3	69.5	0	Pass	
Acenaphthene	38		4.9	0.450	ug/l	Ī	PREM E201566-11	55.6	62.8	29.8	Pass	
Acenaphthylene	ND<4.9	U	4.9	0.470	ug/l	1	PREM E201566-11					
Anthracene	75		4.9	0.560	ug/l	1	PREM E201566-11	172	194	84.2	FAIL	
Benzo(a)anthracene	ND<4.9	U	4.9	0.420	ug/l	1	PREM E201566-11					
Benzo(a)pyrene	11		4.9	0.350	ug/l	1	PREM E201566-11	24.7	28.2	11.6	FAIL	
Benzo(b)fluoranthene	ND<4.9	U	4.9	0.400	ug/l	1	PREM E201566-11					
Benzo(g,h,i)perylene	ND<4.9	U	4.9	0.420	ug/l	1	PREM E201566-11					
Benzo(k)fluoranthene	9.0		4.9	0.360	ug/l	1	PREM E201566-11	23.9	32.8	10.5	FAIL	
Benzyl Butyl Phthalate	50		4.9	0.460	ug/l	1	PREM E201566-11	65.9	87.2	15.3	Pass	
Carbazole	ND<4.9	U	4.9		ug/l	1	PREM E201566-11	•				
Chrysene	21		4.9	0.440	ug/l	1	PREM E201566-11	46.4	53.5	26.6	FAIL	
Cresol,m- & p-	ND<4.9	U	4.9	0.740	ug/l	1	PREM E201566-11					
Dibenz(a,h)anthracene	ND<4.9	U	4.9	0.370	ug/l	1	PREM E201566-11					
Dibenzofuran	50		9.8	0.480	ug/l	1	PREM E201566-11	71.8	93.5	23.9	Pass	
Diethyl Phthalate	ND<4.9	U	4.9	0.660	ug/l	1	PREM E201566-11					
Dimethyl Phthalate	46		4.9	0.600	ug/l	1	PREM E201566-11	61.4	78.0	14.9	Pass	
Fluoranthene	8.7		4.9	0.480	ug/l	1	PREM E201566-11	13.9	15.9	10.4	FAIL	
Fluorene	29		4.9	0.540	ug/l	1	PREM E201566-11	42.9	49.5	24.4	Pass	
Hexachlorobenzene	16		4.9	0.550	ug/l	1	PREM E201566-11	38.1	44.0	22.1	FAIL	
Hexachlorobutadiene	ND<4.9	U	4.9	0.320	ug/l	1	PREM E201566-11					
Hexachlorocyclopentadiene	ND<4.9	U	4.9	0.250	ug/l	1	PREM E201566-11					
Hexachloroethane	40		4.9	0.270	ug/l	1	PREM E201566-11	72.9	77.5	21.7	Pass	
Indeno(1,2,3-c,d)pyrene	ND<4.9	U	4.9	0.400	ug/l	1	PREM E201566-11					
Isophorone	43		4.9	0.440	ug/l	l	PREM E201566-11	55.8	64.6	29.9	Pass	
Naphthalene	60		4.9	0.390	ug/l	1	PREM E201566-11	90.2	102	39.2	Pass	
Nitrobenzene	50		4.9	0.380	ug/l	1	PREM E201566-11	73.9	84.4	36.7	Pass	
Pentachlorophenol	36		4.9	0.380	ug/l	1	PREM E201566-11	57.8	68.6	23.3	Pass	
Phenanthrene	57		4.9	0.560	ug/l	1	PREM E201566-11	77.3	88.5	43.0	Pass	
Phenol	7.4		4.9	0.360	ug/l	1	PREM E201566-11	26.6	30.9	0	Pass	
Pyrene	11		4.9	0.390	ug/l	1	PREM E201566-11	19.0	26.5	10.0	Pass	
bis(2-Chloroethoxy) Methane	ND<4.9	U	4.9	0.460	ug/l	l	PREM E201566-11					
bis(2-Chloroethyl) ether (2-Chloroethyl	ND<4.9	U	4.9	0.350	ug/l	1	PREM E201566-11					
bis(2-Chloroisopropyl) ether	54		9.8	0.310	ug/l	1	PREM E201566-11	131	151	32.3	Pass	



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bis(2-Ethylhexyl) Phthalate		44		4.9	1.77	ug/l	1	PREM	E201566-11	98.2	123	39.4	Pass	
di-n-Butyl Phthalate		ND<4.9	U	4.9	1.14	ug/l	1	PREM	E201566-11					
di-n-Octylphthalate		20		4.9	0.500	ug/l	1	PREM	E201566-11	44.6	57.4	19.5	Pass	
n-Nitrosodi-n-Propylamine		ND<4.9	U	4.9	0.580	ug/l	l	PREM	E201566-11					
n-Nitrosodiphenylamine		29		4.9	0.640	ug/l	I	PREM	E201566-11	41.6	50.9	17.6	Pass	
Location Identifier: WT-A	C-03-067												-	
Sample Identifier 20	01711 01/	16/2002 13:1	2 Per	forman	ice Eval	uation	- Wate	er						
Chemical Name		Reported	Qualifiers	R.L.	M.D.L.	Linita	Dil	Lab.	Lab. Number	Dafaranaa	I Immor I imais	Lauran Limit		Danula
Chemical Name		Concentration	Quantiers	K.L.	M.D.L.	Units	DII.	Lao.	Lab. Number	Reference	Opper Limit	Lower Limit		Result
Total Petroleum Hydrocarbons	PA 418.1	19		0.80	0.300	mg/L	2	PREM	E201566-12	56.9	71.1	34.1	FAIL	
Location Identifier: WT-A	C-03-068							•						
		16/2002 13:1	5 Peri	forman	ce Eval	uation	Wate	er						
Chemical Name		Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit		Result
1,1,1-Trichloroethane		38		5.0	0.184	ug/l	1	PREM	E201566-13	34.7	41.9	26.4	Pass	
1,1,2,2-Tetrachloroethane		ND<5.0	U	5.0	0.243	ug/l	1	PREM	E201566-13					
1,1,2-Trichloroethane		130		5.0	0.175	ug/l	1	PREM	E201566-13	129	154	101	Pass	
1,1-Dichloroethane		ND<5.0	U	5.0	0.228	ug/l	1	PREM	E201566-13					
1,1-Dichloroethene		13		5.0	0.274	ug/l	1	PREM	E201566-13	12.4	18.8	7.81	Pass	
1,2-Dichloroethane		46		5.0	0.288	ug/l	1	PREM	E201566-13	44.7	54.8	35.7	Pass	
1,2-Dichloropropane		ND<5.0	U	5.0	0.234	ug/l	1	PREM	E201566-13					
2-Hexanone		ND<10	U	10	1.88	ug/l	1	PREM	E201566-13					
Acetone		ND<20	U	20	2.65	ug/l	1	PREM	E201566-13					
Benzene		31		5.0	0.184	ug/l	1	PREM	E201566-13	29.3	35.1	23.8	Pass	
Bromodichloromethane		63		5.0	0.172	ug/l	1		E201566-13	59.1	71.0	47.8	Pass	
Bromodichloromethane Bromoform		63 63		5.0 5.0		_	1 1		E201566-13 E201566-13	59.1 55.9	71.0 69.8	47.8 43.2	Pass Pass	
			U		0.172	ug/l	1 1 1	PREM PREM						
Bromoform		63	U U	5.0	0.172 0.127	ug/l ug/l	1 1 1 1	PREM PREM PREM	E201566-13					
Bromoform Bromomethane		63 ND<5.0		5.0 5.0	0.172 0.127 0.167	ug/l ug/l ug/l	1 1 1 1 1	PREM PREM PREM PREM	E201566-13 E201566-13					
Bromoform Bromomethane Carbon Disulfide		63 ND<5.0 ND<5.0		5.0 5.0 5.0	0.172 0.127 0.167 0.498	ug/l ug/l ug/l ug/l	1 1 1 1 1	PREM PREM PREM PREM PREM	E201566-13 E201566-13 E201566-13	55.9	69.8	43.2	Pass	
Bromoform Bromomethane Carbon Disulfide Carbon Tetrachloride		63 ND<5.0 ND<5.0		5.0 5.0 5.0 5.0	0.172 0.127 0.167 0.498 0.228	ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1	PREM PREM PREM PREM PREM	E201566-13 E201566-13 E201566-13	55.9 61.1	69.8 78.1	43.2 45.8	Pass Pass	
Bromoform Bromomethane Carbon Disulfide Carbon Tetrachloride Chlorobenzene		63 ND<5.0 ND<5.0 69 37	U	5.0 5.0 5.0 5.0 5.0	0.172 0.127 0.167 0.498 0.228 0.157	ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM	E201566-13 E201566-13 E201566-13 E201566-13	55.9 61.1	69.8 78.1	43.2 45.8 28.3	Pass Pass	
Bromoform Bromomethane Carbon Disulfide Carbon Tetrachloride Chlorobenzene Chloroethane		63 ND<5.0 ND<5.0 69 37 ND<5.0	U	5.0 5.0 5.0 5.0 5.0 5.0	0.172 0.127 0.167 0.498 0.228 0.157 0.525	ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E201566-13 E201566-13 E201566-13 E201566-13 E201566-13	55.9 61.1 35.1	78.I 41.3	43.2 45.8 28.3	Pass Pass Pass	
Bromoform Bromomethane Carbon Disulfide Carbon Tetrachloride Chlorobenzene Chloroethane Chloroform		63 ND<5.0 ND<5.0 69 37 ND<5.0	U	5.0 5.0 5.0 5.0 5.0 5.0 5.0	0.172 0.127 0.167 0.498 0.228 0.157 0.525 0.226	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	i	PREM PREM PREM PREM PREM PREM PREM PREM	E201566-13 E201566-13 E201566-13 E201566-13 E201566-13 E201566-13 E201566-13	55.9 61.1 35.1	78.I 41.3	43.2 45.8 28.3 38.4	Pass Pass Pass	
Bromoform Bromomethane Carbon Disulfide Carbon Tetrachloride Chlorobenzene Chloroethane Chloroform Chloromethane		63 ND<5.0 ND<5.0 69 37 ND<5.0 50 ND<5.0	U	5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	0.172 0.127 0.167 0.498 0.228 0.157 0.525 0.226 0.148	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1	PREM PREM PREM PREM PREM PREM PREM PREM	E201566-13 E201566-13 E201566-13 E201566-13 E201566-13 E201566-13 E201566-13	55.9 61.1 35.1 48.4	78.1 41.3 57.3	43.2 45.8 28.3 38.4	Pass Pass Pass	
Bromoform Bromomethane Carbon Disulfide Carbon Tetrachloride Chlorobenzene Chloroethane Chloroform Chloromethane Dibromochloromethane	e)	63 ND<5.0 ND<5.0 69 37 ND<5.0 50 ND<5.0	U	5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	0.172 0.127 0.167 0.498 0.228 0.157 0.525 0.226 0.148 0.156	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E201566-13 E201566-13 E201566-13 E201566-13 E201566-13 E201566-13 E201566-13 E201566-13	55.9 61.1 35.1 48.4 46.0	78.1 41.3 57.3	43.2 45.8 28.3 38.4 35.5	Pass Pass Pass Pass	



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Page 39										Loureir	o Engineer	ing As	sociates, In
Methylene Chloride	31		5.0	0.789	ug/l	1	PREM	E201566-13	29.8	37.7	22.6	Pass	
Styrene	ND<5.0	U	5.0	0.170	ug/l	1	PREM	E201566-13					
Tetrachloroethylene (PCE)	37		5.0	0.171	ug/l	1	PREM	E201566-13	36.2	42.8	27.7	Pass	
Toluene	20		5.0	0.188	ug/l	]	PREM	E201566-13	19.3	22.7	15.4	Pass	
Trichloroethylene (TCE)	37		5.0	0.220	ug/l	1	PREM	E201566-13	35.6	42.3	27.0	Pass	
Vinyl Chloride	ND<5.0	U	5.0	0.111	ug/l	1	PREM	E201566-13					
cis-1,3-Dichloropropene	ND<5.0	U	5.0	0.139	ug/l	1	PREM	E201566-13					
m,p-Xylene (Sum of Isomers)	25		5.0	0.424	ug/l	1	PREM	E201566-13				FALS	E POSITIVE
o-Xylene (1,2-Dimethylbenzene)	38		5.0	0.171	ug/i	1	PREM	E201566-13	37.2	46.1	26.0	Pass	
trans-1,3-Dichloropropene	ND<5.0	U	5.0	0.0680	ug/l	1	PREM	E201566-13					
Location Identifier: WT-AC-03-069		"											
Sample Identifier 2001733	01/18/2002 13:2	25 Per	forman	ce Eval	uation	- Wat	er						
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limi	it	Result
PCB-1016 (Arochlor 1016)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E201691-15					
PCB-1221 (Arochlor 1221)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E201691-15					
PCB-1232 (Arochlor 1232)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E201691-15					
PCB-1242 (Arochlor 1242)	ND<0.40	U	0.40	0.120	ug/l	Ī	PREM	E201691-15					
PCB-1248 (Arochlor 1248)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E201691-15					
PCB-1254 (Arochlor 1254)	2.4		0.40	0.120	ug/l	1	PREM	E201691-15	2.42	3.19	1.24	Pass	
PCB-1260 (Arochlor 1260)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E201691-15					
Location Identifier: WT-AC-03-070 Sample Identifier 2001734	01/18/2002 13:2	.7 Per	forman	ce Eval	uation	- Wat	er						
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limi	t	Result
Arsenic	0.35		0.010	0	mg/L	1	PREM	E201691-16	0.351	0.402	0.300	Pass	
Barium	0.90		0.010	0.00068	0 mg/L	1	PREM	E201691-16	0.838	0.928	0.748	Pass	
Cadmium	0.46		0.002	0.00032	0 mg/L	1	PREM	E201691-16	0.483	0.539	0.427	Pass	
Chromium, Total	0.26		0.010	0.00074	0 mg/L	1	PREM	E201691-16	0.267	0.296	0.238	Pass	
Copper	0.42			0.00087	_		PREM	E201691-16	0.424	0.471	0.377	Pass	
Lead	0.23			0 0.00175	-			E201691-16	0.229	0.257	0.201	Pass	
Mercury	0.0023			2(0.00002	_			E201691-16	0.00243	0.00304	0.00182	Pass	
Nickel	0.64			0.00108	-			E201691-16	0.648	0.717	0.579	Pass	
Selenium	0.51			0.00460	_			E201691-16	0.513	0.589	0.437	Pass	
Silver	0.23			0.00627				E201691-16	0.238	0.267	0.209	Pass	
Zinc	0.34			0.00198	_			E201691-16	0.332	0.373	0.291	Pass	
LIIIC	0.54		0.010	0.00170	me/L		i ICLIVI	2201071-10	0.002	0.515	0.271	1 433	



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Loureiro Engineering Associates, Inc.

Sample Identifier 20	001735	01/18/2002 13:3	o icii	orman	cc L van	Jation -	· wat	<u> </u>						
Chemical Name	Reported Qualifiers R.L. M.D.L. Units Dil		Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit		Result				
Cyanide		0.20		0.010		mg/L	1	PREM	E201691-17	0.214	0.281	0.142	Pass	
Location Identifier: WT-A	C-03-072	<u> </u>												
Sample Identifier 20	01736	01/18/2002 13:3	3 Perf	orman	ce Evalı	uation -	Wate	er						
Chemical Name		Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit		Result
1,2,4-Trichlorobenzene		64		4.8	0.330	ug/l	1	PREM	E201691-18	114	118	50.4	Pass	
1,2-Dichlorobenzene		21		4.8	0.400	ug/l	l	PREM	E201691-18	37	40.8	0	Pass	
1,3-Dichlorobenzene		ND<4.8	U	4.8	0.310	ug/l	1	PREM	E201691-18					
1,4-Dichlorobenzene		52		4.8	0.300	ug/l	I	PREM	E201691-18	98	107	0	Pass	
2,4,5-Trichlorophenol		100		4.8	0.550	ug/l	i	PREM	E201691-18	147	165	75.6	Pass	
2,4,6-Trichlorophenol		100		4.8	0.420	ug/l	1	PREM	E201691-18	152	176	74.6	Pass	
2,4-Dichlorophenol		80		4.8	0.380	ug/l	1	PREM	E201691-18	112	119	56.2	Pass	
2,4-Dimethylphenol		59		4.8	0.640	ug/i	1	PREM	E201691-18	92.2	104	36	Pass	
2,4-Dinitrophenol		50		4.8	0.0700	ug/l	i	PREM	E201691-18	105	117	19.7	Pass	
2,4-Dinitrotoluene		38		4.8	0.600	ug/l	l	PREM	E201691-18	57	66.2	29.9	Pass	
2,6-Dinitrotoluene		ND<4.8	U	4.8	0.530	ug/l	1	PREM	E201691-18					
2-Chloronaphthalene		79		4.8	0.510	ug/l	1	PREM	E201691-18	124	139	48	Pass	
2-Chlorophenol		90		4.8	0.400	ug/l	l	PREM	E201691-18	131	143	58.6	Pass	
2-Methylnaphthalene		ND<4.8	U	4.8	0.430	ug/l	1	PREM	E201691-18					
2-Methylphenol (o-Cresol)		13		4.8	0.420	ug/l	1	PREM	E201691-18	20.5	23.4	0	Pass	
2-Nitroaniline		ND<9.7	U	9.7	0.550	ug/l	i	PREM	E201691-18					
2-Nitrophenol		14		4.8	0.420	ug/l	ì	PREM	E201691-18	21.3	23.7	10.6	Pass	
3,3'-Dichlorobenzidine		ND<4.8	U	4.8	0.730	ug/l	l	PREM	E201691-18					
3-Nitroaniline		ND<9.7	U	9.7	0.440	ug/l	1	PREM	E201691-18					
4,6-Dinitro-2-Methylphenol		ND<4.8	U	4.8		ug/l	1	PREM	E201691-18					
4-Bromophenyl Phenyl ether		ND<4.8	U	4.8	0.530	ug/l	1	PREM	E201691-18					
1-Chloro-3-Methylphenol		42		4.8	0.440	ug/l	1	PREM	E201691-18	58.5	66.4	30.7	Pass	
-Chloroaniline		ND<9.7	U	9.7	0.410	ug/l	1	PREM	E201691-18					
-Chlorophenyl Phenyl ether		62		4.8	0.540	ug/l	l	PREM	E201691-18	95.2	107	50.4	Pass	
I-Nitroaniline		ND<9.7	U	9.7	0.480	ug/l	1	PREM	E201691-18					
4-Nitrophenol		30		4.8	0.290	ug/l	1	PREM	E201691-18	78.4	88.1	0	Pass	
Acenaphthene		ND<4.8	U	4.8	0.450	ug/l	1							
Acenaphthylene		25		4.8	0.470	ug/l	1		E201691-18	39.8	44	20.9	Pass	

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Anthracene	56		4.8	0.560	ug/l	1	PREM E201691-18	91.1	104	47.2	Pass
Benzo(a)anthracene	26		4.8	0.420	ug/l	ì	PREM E201691-18	42.7	46	28.3	FAIL
Benzo(a)pvrene	ND<4.8	U	4.8	0.350	ug/l	1	PREM E201691-18				
Benzo(b)fluoranthene	34		4.8	0.400	ug/l	1	PREM E201691-18	57.6	70.1	27.2	Pass
Benzo(g.h,i)perylene	14		4.8	0.420	ug/l	1	PREM E201691-18	22.8	28.8	0	Pass
Benzo(k)fluoranthene	ND<4.8	U	4.8	0.360	ug/l	1	PREM E201691-18				
Benzyl Butyl Phthalate	ND<4.8	U	4.8	0.460	ug/l	1	PREM E201691-18				
Carbazole	ND<4.8	U	4.8		ug/l	1	PREM E201691-18				
Chrysene	41		4.8	0.440	ug/l	1	PREM E201691-18	60.3	69.7	33.5	Pass
Cresol,m- & p-	ND<4.8	U	4.8	0.740	ug/l	1	PREM E201691-18				
Dibenz(a,h)anthracene	19		4.8	0.370	ug/l	1	PREM E201691-18	29.8	36.5	13.1	Pass
Dibenzofuran	93		9.7	0.480	ug/l	1	PREM E201691-18	148	179	45.4	Pass
Diethyl Phthalate	57		4.8	0.660	ug/l	1	PREM E201691-18	80.9	103	22	Pass
Dimethyl Phthalate	40		4.8	0.600	ug/l	1	PREM E201691-18	58.6	74.6	15.3	Pass
Fluoranthene	ND<4.8	U	4.8	0.480	ug/l	1	PREM E201691-18				
Fluorene	26		4.8	0.540	ug/i	1	PREM E201691-18	42.2	48.7	24.1	Pass
Hexachlorobenzene	ND<4.8	U	4.8	0.550	ug/l	1	PREM E201691-18 '				
Hexachlorobutadiene	83		4.8	0.320	ug/l	1	PREM E201691-18	166	170	57.6	Pass
Hexachlorocyclopentadiene	ND<4.8	U	4.8	0.250	ug/l	1	PREM E201691-18				
Hexachloroethane	ND<4.8	U	4.8	0.270	ug/l	1	PREM E201691-18				
Indeno(1,2,3-c,d)pyrene	22		4.8	0.400	ug/l	1	PREM E201691-18	37.8	43.3	14.2	Pass
Isophorone	99		4.8	0.440	ug/i	1	PREM E201691-18	139	162	70	Pass
Naphthalene	91		4.8	0.390	ug/l	1	PREM E201691-18	140	158	58.6	Pass
Nitrobenzene	37		4.8	0.380	ug/l	1	PREM E201691-18	56.8	64.8	28.6	Pass
Pentachlorophenol	77		4.8	0.380	ug/i	1	PREM E201691-18	128	153	58	Pass
Phenanthrene	35		4.8	0.560	ug/l	1	PREM E201691-18	53.5	60.7	32.6	Pass
Phenol	15		4.8	0.360	ug/l	1	PREM E201691-18	41.2	46.4	0	Pass
Pyrene	21		4.8	0.390	ug/l	I	PREM E201691-18	35.4	45.2	18.2	Pass
bis(2-Chloroethoxy) Methane	23		4.8	0.460	ug/l	1	PREM E201691-18	47.2	50.8	24.9	FAIL
bis(2-Chloroethyl) ether (2-Chloroethyl	ND<4.8	U	4.8	0.350	ug/l	l	PREM E201691-18				
bis(2-Chloroisopropyl) ether	13		9.7	0.310	ug/I	I	PREM E201691-18	33.4	35	14	FAIL
bis(2-Ethylhexyl) Phthalate	79		4.8	1.77	ug/l	I	PREM E201691-18	121	151	45.8	Pass
di-n-Butyl Phthalate	26		4.8	1.14	ug/l	1	PREM E201691-18	37.6	47.8	20.7	Pass
di-n-Octylphthalate	ND<4.8	U	4.8	0.500	ug/l	1	PREM E201691-18				
n-Nitrosodi-n-Propylamine	95		4.8	0.580	ug/l	1	PREM E201691-18	131	149	62.4	Pass
n-Nitrosodiphenylamine	ND<4.8	U	4.8	0.640	ug/l	1	PREM E201691-18				

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Location Identifier: WT-AC-03-073 Sample Identifier 2001737	01/18/2002 13:3	6 Per	forman	ice Eval	uation	- Wat	er						
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit		Result
Total Petroleum Hydrocarbons EPA 418.1	47		2.0	0.750	mg/L	5	PREM	E201691-19	41.0	51.2	24.6	Pass	
Location Identifier: WT-AC-03-074													
Sample Identifier 2001738	01/18/2002 13:4	0 Per	forman	ice Eval	uation -	- Wat	er						
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit		Result
1,1,1-Trichloroethane	41		5.0	0.184	ug/l	1	PREM	E201691-20	35.6	43.0	27.1	Pass	
1,1,2,2-Tetrachloroethane	92		5.0	0.243	ug/l	1	PREM	E201691-20	89	112	64.2	Pass	
1,1,2-Trichloroethane	ND<5.0	U	5.0	0.175	ug/l	1	PREM	E201691-20					
1,1-Dichloroethane	ND<5.0	U	5.0	0.228	ug/l	1	PREM	E201691-20					
1,1-Dichloroethene	ND<5.0	U	5.0	0.274	ug/l	l	PREM	E201691-20 ·					
1,2-Dichloroethane	48		5.0	0.288	ug/l	1	PREM	E201691-20	44.7	54.8	35.7	Pass	
1,2-Dichloropropane	ND<5.0	U	5.0	0.234	ug/l	1	PREM	E201691-20					
2-Hexanone	ND<10	U	10	1.88	ug/l	1	PREM	E201691-20					
Acetone	ND<20	U	20	2.65	ug/l	l	PREM	E201691-20					
Benzene	54		5.0	0.184	ug/l	1	PREM	E201691-20	50.0	59.6	40.8	Pass	
Bromodichloromethane	30		5.0	0.172	ug/l	1	PREM	E201691-20	27.3	32.9	21.9	Pass	
Bromoform	28		5.0	0.127	ug/l	1	PREM	E201691-20	25.6	32.0	19.2	Pass	
Bromomethane	ND<5.0	U	5.0	0.167	ug/l	1	PREM	E201691-20					
Carbon Disulfide	ND<5.0	U	5.0	0.498	ug/l	1	PREM	E201691-20					
Carbon Tetrachloride	48		5.0	0.228	ug/l	1	PREM	E201691-20	40.7	52.1	30.6	Pass	
Chlorobenzene	57		5.0	0.157	ug/l	1	PREM	E201691-20	54.7	64.5	43.7	Pass	
Chloroethane	ND<5.0	U	5.0	0.525	ug/l	1	PREM	E201691-20					
Chloroform	78		5.0	0.226	ug/l	l	PREM	E201691-20	72.1	85.2	56.9	Pass	
Chloromethane	ND<5.0	U	5.0	0.148	ug/l	1	PREM	E201691-20					
Dibromochloromethane	24		5.0	0.156	ug/l	1	PREM	E201691-20	22.6	27.4	17.4	Pass	
Ethylbenzene	62		5.0	0.176	ug/l	1	PREM	E201691-20	58.1	69.8	44.9	Pass	
Methyl Ethyl ketone (2-Butanone)	ND<10	U	10	1.94	ug/l	1	PREM	E201691-20					
Methyl Isobutyl ketone (4-Methyl-2-Penta	83		10	1.89	ug/l	1	PREM	E201691-20	80.9	107	49.8	Pass	
Methylene Chloride	63		5.0	0.789	ug/l	1	PREM	E201691-20	58.6	73.3	44.3	Pass	
Styrene	ND<5.0	U	5.0	0.170	ug/l	1	PREM	E201691-20					
Tetrachloroethylene (PCE)	29		5.0	0.171	ug/l	1	PREM	E201691-20	27.1.	32.1	20.7	Pass	
Toluene	55		5.0	0.188	ug/l	1	PREM	E201691-20	53.0			Pass	
Trichloroethylene (TCE)	40		5.0	0.220	ug/l	1		E201691-20	36.6			Pass	



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Vinyl Chloride	ND<5.0	U	5.0	0.111	ug/l	1	PREM	E201691-20			•	Ŭ	
cis-1,3-Dichloropropene	ND<5.0	U	5.0	0.139	ug/l	1	PREM	E201691-20					
m,p-Xylene (Sum of Isomers)	58		5.0	0.424	ug/l	1	PREM	E201691-20	54.2	67.5	37.8	Pass	
o-Xylene (1,2-Dimethylbenzene)	ND<5.0	U	5.0	0.171	ug/l	1	PREM	E201691-20					
trans-1,3-Dichloropropene	ND<5.0	U	5.0	0.0680	ug/l	l	PREM	E201691-20					
Location Identifier: WT-AC-03-075													
Sample Identifier 2001750	01/22/2002 13:3	5 Per	forman	ce Eval	uation	- Wat	er						
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limi	t I	Result
PCB-1016 (Arochlor 1016)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E201752-12					
PCB-1221 (Arochlor 1221)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E201752-12					
PCB-1232 (Arochlor 1232)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E201752-12					
PCB-1242 (Arochlor 1242)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E201752-12					
PCB-1248 (Arochlor 1248)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E201752-12					
PCB-1254 (Arochlor 1254)	6.1		0.40	0.120	ug/l	1	PREM	E201752-12	6.77	8.94	3.47	Pass	
PCB-1260 (Arochlor 1260)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E201752-12					
Location Identifier: WT-AC-03-076													
Sample Identifier 2001781	01/25/2002 13:3	5 Per	forman	ce Eval	uation	- Wate	er	· •					4
	01/25/2002 13:3  Reported Concentration	5 Per Qualifiers	forman R.L.			- Wate Dil.	Er Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	t F	Result
Sample Identifier 2001781  Chemical Name  PCB-1016 (Arochlor 1016)	Reported Concentration ND<0.42	Qualifiers U	R.L. 0.42	M.D.L. 0.120	Units ug/l		Lab. PREM	E201956-21	Reference	Upper Limit	Lower Limit	t F	Result
Sample Identifier 2001781 Chemical Name	Reported Concentration ND<0.42 ND<0.42	Qualifiers U U	R.L. 0.42 0.42	M.D.L. 0.120 0.120	Units		Lab. PREM PREM	E201956-21 E201956-21	Reference 	Upper Limit	Lower Limit	t F	Result
Sample Identifier 2001781  Chemical Name  PCB-1016 (Arochlor 1016)	Reported Concentration ND<0.42 ND<0.42 ND<0.42	Qualifiers U U U	R.L. 0.42 0.42 0.42	M.D.L. 0.120 0.120 0.120	Units ug/l	Dil.	Lab. PREM PREM	E201956-21	Reference	Upper Limit	Lower Limit	t F	Result
Sample Identifier 2001781  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)  PCB-1242 (Arochlor 1242)	Reported Concentration ND<0.42 ND<0.42 ND<0.42 ND<0.42 ND<0.42	Qualifiers U U U U	R.L. 0.42 0.42 0.42 0.42	M.D.L. 0.120 0.120 0.120 0.120	Units ug/l ug/l ug/l ug/l	Dil. I	Lab. PREM PREM PREM PREM	E201956-21 E201956-21 E201956-21 E201956-21	Reference	Upper Limit	Lower Limit	t F	Result
Sample Identifier 2001781  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)	Reported Concentration ND<0.42 ND<0.42 ND<0.42 ND<0.42 ND<0.42 ND<0.42	Qualifiers U U U	R.L. 0.42 0.42 0.42 0.42 0.42	M.D.L. 0.120 0.120 0.120 0.120 0.120	Units ug/l ug/l ug/l ug/l ug/l	Dil. 1 1	Lab. PREM PREM PREM PREM PREM	E201956-21 E201956-21 E201956-21 E201956-21 E201956-21		··			Result
Sample Identifier 2001781  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)  PCB-1242 (Arochlor 1242)  PCB-1248 (Arochlor 1248)  PCB-1254 (Arochlor 1254)	Reported Concentration ND<0.42 ND<0.42 ND<0.42 ND<0.42 ND<0.42 ND<0.42 AD<0.42 AD<0.42	Qualifiers  U U U U U U	R.L. 0.42 0.42 0.42 0.42 0.42 0.42	M.D.L. 0.120 0.120 0.120 0.120 0.120 0.120	Units  ug/l  ug/l  ug/l  ug/l  ug/l  ug/l	Dil. 1 1 1 1	Lab. PREM PREM PREM PREM PREM PREM	E201956-21 E201956-21 E201956-21 E201956-21 E201956-21 E201956-21	Reference	Upper Limit	Lower Limit	t F	Result
Sample Identifier 2001781  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)  PCB-1242 (Arochlor 1242)  PCB-1248 (Arochlor 1248)	Reported Concentration ND<0.42 ND<0.42 ND<0.42 ND<0.42 ND<0.42 ND<0.42	Qualifiers U U U U	R.L. 0.42 0.42 0.42 0.42 0.42	M.D.L. 0.120 0.120 0.120 0.120 0.120	Units ug/l ug/l ug/l ug/l ug/l	Dil. 1 1 1 1	Lab. PREM PREM PREM PREM PREM PREM	E201956-21 E201956-21 E201956-21 E201956-21 E201956-21		··			
Sample Identifier 2001781  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)  PCB-1242 (Arochlor 1242)  PCB-1248 (Arochlor 1248)  PCB-1254 (Arochlor 1254)	Reported Concentration ND<0.42 ND<0.42 ND<0.42 ND<0.42 ND<0.42 ND<0.42 AD<0.42 AD<0.42	Qualifiers  U  U  U  U  U  U	R.L. 0.42 0.42 0.42 0.42 0.42 0.42	M.D.L. 0.120 0.120 0.120 0.120 0.120 0.120	Units ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	Dil.  1 1 1 1 1 1 1 1 1 1	Lab. PREM PREM PREM PREM PREM PREM PREM PREM	E201956-21 E201956-21 E201956-21 E201956-21 E201956-21 E201956-21		··			Result
Sample Identifier 2001781  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)  PCB-1242 (Arochlor 1242)  PCB-1248 (Arochlor 1248)  PCB-1254 (Arochlor 1254)  PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-03-077	Reported Concentration ND<0.42 ND<0.42 ND<0.42 ND<0.42 ND<0.42 ND<0.42 4.8 ND<0.42	Qualifiers  U  U  U  U  U  U	R.L. 0.42 0.42 0.42 0.42 0.42 0.42	M.D.L. 0.120 0.120 0.120 0.120 0.120 0.120 0.120	Units  ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/	Dil.  1 1 1 1 1 1 1 1 1 1	Lab. PREM PREM PREM PREM PREM PREM PREM PREM	E201956-21 E201956-21 E201956-21 E201956-21 E201956-21 E201956-21		6.98		Pass	Result
Sample Identifier   2001781	Reported Concentration ND<0.42 ND<0.42 ND<0.42 ND<0.42 ND<0.42 ND<0.42 AD<0.42 AB ND<0.42 4.8 ND<0.42 AR Reported	Qualifiers U U U U U U P	R.L.  0.42 0.42 0.42 0.42 0.42 0.42 0.42 0.	M.D.L. 0.120 0.120 0.120 0.120 0.120 0.120 0.120 ce Evalu	Units  ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/	Dil.  1 1 1 1 1 1 1 1 1 - Wate	Lab.  PREM PREM PREM PREM PREM PREM PREM PRE	E201956-21 E201956-21 E201956-21 E201956-21 E201956-21 E201956-21 E201956-21	5.29	6.98	2.71	Pass	
Sample Identifier 2001781  Chemical Name  PCB-1016 (Arochlor 1016) PCB-1221 (Arochlor 1221) PCB-1232 (Arochlor 1232) PCB-1242 (Arochlor 1242) PCB-1248 (Arochlor 1248) PCB-1254 (Arochlor 1254) PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-03-077 Sample Identifier 2001782  Chemical Name	Reported Concentration ND<0.42 ND<0.42 ND<0.42 ND<0.42 ND<0.42 ND<0.42 AD<0.42 AD<0.42 AB AB AD<0.42 AB AB AD<0.42 AB AB AD<0.42 AB	Qualifiers U U U U U U P	R.L. 0.42 0.42 0.42 0.42 0.42 0.42 0.42 0.4	M.D.L. 0.120 0.120 0.120 0.120 0.120 0.120 0.120 ce Evalu	Units  ug/l ug/l ug/l ug/l ug/l ug/l ug/l Units  mg/L	Dil.  1 1 1 1 1 1 1 1 1 - Wate	Lab.  PREM PREM PREM PREM PREM PREM PREM PRE	E201956-21 E201956-21 E201956-21 E201956-21 E201956-21 E201956-21 E201956-21	5.29  Reference	6.98 Upper Limit	2.71 Lower Limit	Pass	
Sample Identifier 2001781  Chemical Name  PCB-1016 (Arochlor 1016) PCB-1221 (Arochlor 1221) PCB-1232 (Arochlor 1232) PCB-1242 (Arochlor 1242) PCB-1248 (Arochlor 1248) PCB-1254 (Arochlor 1254) PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-03-077 Sample Identifier 2001782  Chemical Name  Arsenic	Reported Concentration ND<0.42 ND<0.42 ND<0.42 ND<0.42 ND<0.42 ND<0.42 AND<0.42	Qualifiers U U U U U U P	R.L. 0.42 0.42 0.42 0.42 0.42 0.42 0.42 0.00 0.00	M.D.L. 0.120 0.120 0.120 0.120 0.120 0.120 0.120 ce Evalu M.D.L.	Units  ug/l ug/l ug/l ug/l ug/l ug/l ug/l Units  mg/L 0 mg/L	Dil.  1 1 1 1 1 1 1 1 1 - Wate	Lab.  PREM PREM PREM PREM PREM PREM PREM PRE	E201956-21 E201956-21 E201956-21 E201956-21 E201956-21 E201956-21 E201956-21	5.29  Reference	6.98 Upper Limit .461 .538	2.71  Lower Limit .345	Pass F	
Chemical Name  PCB-1016 (Arochlor 1016) PCB-1221 (Arochlor 1221) PCB-1232 (Arochlor 1232) PCB-1242 (Arochlor 1242) PCB-1248 (Arochlor 1248) PCB-1254 (Arochlor 1254) PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-03-077 Sample Identifier 2001782  Chemical Name  Arsenic Barium	Reported Concentration ND<0.42 ND<0.42 ND<0.42 ND<0.42 ND<0.42 ND<0.42 AND<0.42	Qualifiers U U U U U U P	R.L.  0.42 0.42 0.42 0.42 0.42 0.42 0.00 0.00	M.D.L. 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120	Units  ug/l ug/l ug/l ug/l ug/l ug/l ug/l Units  mg/L 0 mg/L 0 mg/L	Dil.  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Lab.  PREM PREM PREM PREM PREM PREM PREM PRE	E201956-21 E201956-21 E201956-21 E201956-21 E201956-21 E201956-21 E201956-21	5.29  Reference .403 .486	6.98 Upper Limit .461 .538	2.71 Lower Limit .345 .434	Pass Fass Pass	



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0.35		0.004	0 0.00175	mg/L	1	PREM	E201956-22	.339	.381	.297	Pass	
0.015		0.000	4(0.00004	4 mg/L	2	PREM	E201956-22	.0168	.0210	.0126	Pass	
0.84		0.010	0.00108	mg/L	1	PREM	E201956-22	.826	.914	.738	Pass	
0.66					1	PREM	E201956-22	.655	.751	.559	Pass	
0.30					1	PREM	E201956-22	.298	.334	.262	Pass	
1.1		0.010	0.00198	mg/L	1	PREM	E201956-22	1.110	1.250	.972	Pass	
			_					_			-	
	l Peri	forman	ce Evalı	uation -	- Wate	er						
Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	ľ	Result
0.76		0.020		mg/L	2	PREM	E201956-23	.862	1.09	.597	Pass	
			_									
	3 Peri	forman	ce Evalı	uation -	- Wate	er						
Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	ľ	Result
13		5.2	0.330	ug/l	1	PREM	E201956-24	24.1	27.8	10.9	Pass	
48		5.2	0.400	ug/l	1	PREM	E201956-24	92.4	97	32.3	Pass	
ND<5.2	U	5.2	0.310	ug/l	1	PREM	E201956-24					
ND<5.2	U	5.2	0.300	ug/l	1	PREM	E201956-24					
48		5.2	0.550	ug/l	1	PREM	E201956-24	75.6	85	42.2	Pass	
35		5.2	0.420	ug/l	1	PREM	E201956-24	53.5	61.5	27.2	Pass	
7.			0.300			DD EL 4			137	50.1	-	
/1		5.2	0.380	ug/l	I	PREM	E201956-24	118	126	59.I	Pass	
30		5.2 5.2	0.380	ug/l ug/l	! 1		E201956-24 E201956-24	51.3	58.6		Pass Pass	
					-	PREM				18.8		
30		5.2	0.640	ug/l	-	PREM PREM	E201956-24	51.3	58.6	18.8 24.1	Pass	
30 89	U	5.2 5.2	0.640 0.0700	ug/l ug/l	-	PREM PREM PREM	E201956-24 E201956-24	51.3 138	58.6 148	18.8 24.1	Pass Pass	
30 89 68	U	5.2 5.2 5.2	0.640 0.0700 0.600	ug/l ug/l ug/l	1 1 1	PREM PREM PREM PREM	E201956-24 E201956-24 E201956-24	51.3 138	58.6 148	18.8 24.1 59.2	Pass Pass	
30 89 68 ND<5.2	U	5.2 5.2 5.2 5.2	0.640 0.0700 0.600 0.530	ug/l ug/l ug/l ug/l	1 1 1 1	PREM PREM PREM PREM PREM	E201956-24 E201956-24 E201956-24 E201956-24	51.3 138 105	58.6 148 124	18.8 24.1 59.2 9.85	Pass Pass Pass	
30 89 68 ND<5.2	U U	5.2 5.2 5.2 5.2 5.2	0.640 0.0700 0.600 0.530 0.510	ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1	PREM PREM PREM PREM PREM PREM	E201956-24 E201956-24 E201956-24 E201956-24 E201956-24	51.3 138 105 18.5	58.6 148 124 22.9	18.8 24.1 59.2 9.85	Pass Pass Pass	
30 89 68 ND<5.2 11 35		5.2 5.2 5.2 5.2 5.2 5.2	0.640 0.0700 0.600 0.530 0.510 0.400	ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM	E201956-24 E201956-24 E201956-24 E201956-24 E201956-24 E201956-24	51.3 138 105 18.5	58.6 148 124 22.9	18.8 24.1 59.2 9.85 29.1	Pass Pass Pass	
30 89 68 ND<5.2 11 35 ND<5.2		5.2 5.2 5.2 5.2 5.2 5.2 5.2	0.640 0.0700 0.600 0.530 0.510 0.400 0.430	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E201956-24 E201956-24 E201956-24 E201956-24 E201956-24 E201956-24 E201956-24	51.3 138 105 18.5 62.0	58.6 148 124 22.9 68.7	18.8 24.1 59.2 9.85 29.1	Pass Pass Pass Pass Pass	
30 89 68 ND<5.2 11 35 ND<5.2	U	5.2 5.2 5.2 5.2 5.2 5.2 5.2 5.2	0.640 0.0700 0.600 0.530 0.510 0.400 0.430 0.420	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E201956-24 E201956-24 E201956-24 E201956-24 E201956-24 E201956-24 E201956-24 E201956-24	51.3 138 105 18.5 62.0	58.6 148 124 22.9 68.7	18.8 24.1 59.2 9.85 29.1 12.2	Pass Pass Pass Pass Pass	
30 89 68 ND<5.2 11 35 ND<5.2 16 ND<10	U	5.2 5.2 5.2 5.2 5.2 5.2 5.2 5.2 5.2	0.640 0.0700 0.600 0.530 0.510 0.400 0.430 0.420 0.550	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E201956-24 E201956-24 E201956-24 E201956-24 E201956-24 E201956-24 E201956-24 E201956-24	51.3 138 105 18.5 62.0 28.9	58.6 148 124 22.9 68.7	18.8 24.1 59.2 9.85 29.1 12.2	Pass Pass Pass Pass Pass Pass	
30 89 68 ND<5.2 11 35 ND<5.2 16 ND<10 8.4	U U	5.2 5.2 5.2 5.2 5.2 5.2 5.2 5.2 5.2 5.2	0.640 0.0700 0.600 0.530 0.510 0.400 0.430 0.420 0.550 0.420	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E201956-24 E201956-24 E201956-24 E201956-24 E201956-24 E201956-24 E201956-24 E201956-24 E201956-24	51.3 138 105 18.5 62.0 28.9	58.6 148 124 22.9 68.7	18.8 24.1 59.2 9.85 29.1 12.2	Pass Pass Pass Pass Pass Pass	
30 89 68 ND<5.2 11 35 ND<5.2 16 ND<10 8.4 ND<5.2	U U U	5.2 5.2 5.2 5.2 5.2 5.2 5.2 5.2 5.2 5.2	0.640 0.0700 0.600 0.530 0.510 0.400 0.430 0.420 0.550 0.420 0.730	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E201956-24 E201956-24 E201956-24 E201956-24 E201956-24 E201956-24 E201956-24 E201956-24 E201956-24 E201956-24 E201956-24	51.3 138 105 18.5 62.0 28.9	58.6 148 124 22.9 68.7 33 16.3	18.8 24.1 59.2 9.85 29.1 12.2 7.67	Pass Pass Pass Pass Pass Pass	
30 89 68 ND<5.2 11 35 ND<5.2 16 ND<10 8.4 ND<5.2 ND<10	U U U	5.2 5.2 5.2 5.2 5.2 5.2 5.2 5.2 5.2 5.2	0.640 0.0700 0.600 0.530 0.510 0.400 0.430 0.420 0.550 0.420 0.730 0.440	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E201956-24 E201956-24 E201956-24 E201956-24 E201956-24 E201956-24 E201956-24 E201956-24 E201956-24 E201956-24 E201956-24 E201956-24	51.3 138 105 18.5 62.0 28.9	58.6 148 124 22.9 68.7 33 16.3	18.8 24.1 59.2 9.85 29.1 12.2 7.67	Pass Pass Pass Pass Pass Pass Pass	
	0.015 0.84 0.66 0.30 1.1  03-078 83 01/25/2002 13:4  Reported Concentration 0.76  3-079 84 01/25/2002 13:4  Reported Concentration 13 48 ND<5.2 ND<5.2 ND<5.2 48 35	0.015 0.84 0.66 0.30 1.1  3-078 83 01/25/2002 13:41 Periodic Reported Concentration 0.76  3-079 84 01/25/2002 13:43 Reported Concentration Qualifiers 13 48 ND<5.2 ND<5.2 U ND<5.2 U ND<5.2 U 48 35	0.015   0.0000     0.84   0.010     0.66   0.010     0.30   0.0020     1.1   0.010     0.37-078     83   01/25/2002   13:41   Performan     Reported   Qualifiers   R.L.     0.76   0.020     3-079     84   01/25/2002   13:43   Performan     Reported   Qualifiers   R.L.     13   5.2     48   5.2     ND<5.2   U   5.2     ND<5.2   U   5.2     ND<5.2   U   5.2     48   5.2     35   5.2	0.015	0.015	0.015	0.015	0.015	0.015	0.35	0.35	0.015

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4-Chloroaniline	ND<10	U	10	0.410	ug/l	1	PREM E201956-24				
4-Chlorophenyl Phenyl ether	54		5.2	0.540	ug/l	1	PREM E201956-24	86.9	97.6	46.5	Pass
4-Nitroaniline	ND<10	U	10	0.480	ug/l	1	PREM E201956-24				
4-Nitrophenol	22		5.2	0.290	ug/l	1	PREM E201956-24	64.6	73.9	0	Pass
Acenaphthene	ND<5.2	U	5.2	0.450	ug/l	1	PREM E201956-24				
Acenaphthylene	11		5.2	0.470	ug/l	1	PREM E201956-24	18.3	21.3	9.34	Pass
Anthracene	14		5.2	0.560	ug/l	1	PREM E201956-24	20.6	23.3	11.2	Pass
Benzo(a)anthracene	16		5.2	0.420	ug/l	1	PREM E201956-24	25.0	26.2	17.2	FAIL
Benzo(a)pyrene	ND<5.2	U	5.2	0.350	ug/l	1	PREM E201956-24				
Benzo(b)fluoranthene	8.8		5.2	0.400	ug/l	1	PREM E201956-24	15.1	17.9	8.61	Pass
Benzo(g,h,i)perylene	ND<5.2	U	5.2	0.420	ug/l	1	PREM E201956-24				
Benzo(k)fluoranthene	ND<5.2	U	5.2	0.360	ug/l	l	PREM E201956-24				
Benzyl Butyl Phthalate	78		5.2	0.460	ug/l	1	PREM E201956-24	111	123	45.1	Pass
Carbazole	ND<5.2	U	5.2	0.400	ug/l	1	PREM E201956-24				
Chrysene	17		5.2	0.440	ug/l	1	PREM E201956-24	25.3	28.8	16	Pass
Cresol,m- & p-	ND<5.2	U	5.2	0.740	ug/l	1	PREM E201956-24				
Dibenz(a,h)anthracene	ND<5.2	U	5.2	0.370	ug/i	1	PREM E201956-24 '				
Dibenzofuran	40		10	0.480	ug/l	1	PREM E201956-24	64.9	70.1	34.9	Pass
Diethyl Phthalate	94		5.2	0.660	ug/l	1	PREM E201956-24	142	169	51.5	Pass
Dimethyl Phthalate	9.4		5.2	0.600	ug/l	1	PREM E201956-24	14.5	17.1	5.54	Pass
Fluoranthene	14		5.2	0.480	ug/l	I	PREM E201956-24	19.8	22.7	13.6	Pass
Fluorene	24		5.2	0.540	ug/l	1	PREM E201956-24	39.4	45.6	22.5	Pass
Hexachlorobenzene	ND<5.2	U	5.2	0.550	ug/l	1	PREM E201956-24				
Hexachlorobutadiene	ND<5.2	U	5.2	0.320	ug/l	1	PREM E201956-24				
Hexachlorocyclopentadiene	ND<5.2	U	5.2	0.250	ug/l	l	PREM E201956-24				
Hexachloroethane	ND<5.2	U	5.2	0.270	ug/l	1	PREM E201956-24				
Indeno(1,2,3-c,d)pyrene	10		5.2	0.400	ug/l	I	PREM E201956-24	20	21	9.27	Pass
Isophorone	37		5.2	0.440	ug/l	1	PREM E201956-24	58.1	67.3	31	Pass
Naphthalene	75		5.2	0.390	ug/l	1	PREM E201956-24	139	156	58.2	Pass
Nitrobenzene	53		5.2	0.380	ug/l	1	PREM E201956-24	98	112	48.1	Pass
Pentachlorophenol	58		5.2	0.380	ug/l	1	PREM E201956-24	78	92.9	33.3	Pass
Phenanthrene	16		5.2	0.560	ug/l	1	PREM E201956-24	24.4	27.3	14.5	Pass
Phenol	32		5.2	0.360	ug/l	1	PREM E201956-24	134	145	29.7	Pass
Pyrene	22		5.2	0.390	ug/l	1	PREM E201956-24	30.2	39.3	15.6	Pass
bis(2-Chloroethoxy) Methane	52		5.2	0.460	ug/l	1	PREM E201956-24	118	124	62.2	FAIL
bis(2-Chloroethyl) ether (2-Chloroethyl	ND<5.2	U	5.2	0.350	ug/l	1	PREM E201956-24				
bis(2-Chloroisopropyl) ether	ND<10	U	10	0.310	ug/l	1	PREM E201956-24				
bis(2-Ethylhexyl) Phthalate	15		5.2	1.77	ug/l	1	PREM E201956-24	20.9	26.6	.14.1	Pass
di-n-Butyl Phthalate	ND<5.2	U	5.2	1.14	ug/l	1	PREM E201956-24				
di-n-Octylphthalate	44		5.2	0.500	ug/l	1	PREM E201956-24	61.1	77.2	24.7	Pass



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n-Nitrosodi-n-Propylamine n-Nitrosodiphenylamine	ND<5.2 25	U 	5.2 5.2	0.580 0.640	ug/l	1		E201956-24 E201956-24	49.7	60.1	21	Pass	
Location Identifier: WT-AC-03-08 Sample Identifier 2001814	01/30/2002 13:0	00 Per	formar	nce Eval	uation	- Wat	er						
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Lin	nit	Result
PCB-1016 (Arochlor 1016)	ND<0.40	U	0.40	0.120	ug/l	i	PREM	E201A96-11					
PCB-1221 (Arochlor 1221)	ND<0.40	U	0.40	0.120	ug/l	i	PREM	E201A96-11					
PCB-1232 (Arochlor 1232)	ND<0.40	U	0.40	0.120	ug/l	I	PREM	E201A96-11					
PCB-1242 (Arochlor 1242)	ND<0.40	U	0.40	0.120	ug/l	i	PREM	E201A96-11					
PCB-1248 (Arochlor 1248)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E201A96-11					
PCB-1254 (Arochlor 1254)	6.3		0.40	0.120	ug/l	1	PREM	E201A96-11	7.63	10.1	3.91	Pass	
PCB-1260 (Arochlor 1260)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E201A96-11					
Location Identifier: WT-AC-03-080 Sample Identifier 2001785 Chemical Name	01/25/2002 13:4  Reported Concentration	45 Per Qualifiers	formar R.L.	nce Eval		- Wat Dil.	er Lab.	Lab. Number	Reference	Upper Limit	Lower Lim		Result
Total Petroleum Hydrocarbons EPA 418.1	120		4.1	1.50	mg/L	10	PREM	E201956-25	94.7	118	56.8	FAIL	
ocation Identifier: WT-AC-03-081 Sample Identifier 2001786 Chemical Name	01/25/2002 13:4 Reported	18 Per Qualifiers	forman R.L.	nce Eval		- Wat	er_ Lab.	Lab. Number	- — Reference	Upper Limit			Result
	Concentration	Quantiers				Dit.							Kesun
1,1,1-Trichloroethane	72		5.0	0.184	ug/l	1		E201956-26	65.4	79	49.5	Pass	
1,1,2,2-Tetrachloroethane	37		5.0	0.243	ug/l	1		E201956-26	34.6	43.7	24.6	Pass	
1,1,2-Trichloroethane	77		5.0	0.175	ug/l	l		E201956-26	74.4	89	58.4	Pass	
1,1-Dichloroethane	ND<5.0	U	5.0	0.228	ug/l	i		E201956-26					
1,1-Dichloroethene	ND<5.0	U	5.0	0.274	ug/l	1		E201956-26	* - *			_	
1,2-Dichloroethane	29		5.0	0.288	ug/l	I		E201956-26	26.8	33.2	21.6	Pass	
,2-Dichloropropane	100		5.0	0.234	ug/l	l		E201956-26	101	118	78.1	Pass	
-Hexanone	ND<10	U	10	1.88	ug/l	1		E201956-26					
Acetone	ND<20	U	20	2.65	ug/l	l		E201956-26					
Benzene	8.7		5.0	0.184	ug/l	1		E201956-26	7.93	9.82	6.22	Pass	
Bromodichloromethane	22		5.0	0.172	ug/l	1		E201956-26	19.7	23.8	15.8	Pass	
Bromoform	46		5.0	0.127	ug/l	ì		E201956-26	39.6	49.5	.30.3	Pass	
Bromomethane	ND<5.0	U	5.0	0.167	ug/l	1	PREM	E201956-26					
Carbon Disulfide	ND<5.0	U	5.0	0.498	ug/l	1	PREM	E201956-26					



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Carbon Tetrachloride	60		5.0	0.228	ug/l	1	PREM	E201956-26	55.3	70.7	41.5	Pass
Chlorobenzene	25		5.0	0.157	ug/l	1	PREM	E201956-26	24.8	29.2	20.2	Pass
Chloroethane	ND<5.0	U	5.0	0.525	ug/l	1	PREM	E201956-26				
Chloroform	42		5.0	0.226	ug/l	1	PREM	E201956-26	38.5	45.7	30.6	Pass
Chloromethane	ND<5.0	U	5.0	0.148	ug/l	1	PREM	E201956-26				
Dibromochloromethane	17		5.0	0.156	ug/l	l	PREM	E201956-26	15.1	18.3	11.6	Pass
Ethylbenzene	72		5.0	0.176	ug/l	1		E201956-26	70.2	84.4	54.2	Pass
Methyl Ethyl ketone (2-Butanone)	ND<10	U	10	1.94	ug/l	1	PREM	E201956-26				
Methyl Isobutyl ketone (4-Methyl-2-Penta	76		10	1.89	ug/l	1		E201956-26	73.1	99.3	44.9	Pass
Methylene Chloride	38		5.0	0.789	ug/l	1		E201956-26	34.7	43.8	26.3	Pass
Styrene	ND<5.0	U	5.0	0.170	ug/l	1	PREM	E201956-26				
Tetrachloroethylene (PCE)	66		5.0	0.171	ug/l	1	PREM	E201956-26	70.4	82.7	53.8	Pass
Toluene	31		5.0	0.188	ug/l	1	PREM	E201956-26	30.5	35.6	24.5	Pass
Trichloroethylene (TCE)	37		5.0	0.220	ug/l	1		E201956-26	34.6	41.1	26.2	Pass
Vinyl Chloride	ND<5.0	U	5.0	0.111	ug/l	I		E201956-26				
cis-1,3-Dichloropropene	ND<5.0	U	5.0	0.139	ug/l	i		E201956-26				
m,p-Xylene (Sum of Isomers)	ND<5.0	U	5.0	0.424	ug/l	l		E201956-26				
o-Xylene (1,2-Dimethylbenzene)	38		5.0	0.171	ug/l	1	PREM	E201956-26	38.2	48.3	26.6	Pass
trans-1,3-Dichloropropene	ND<5.0	U	5.0	0.0680	ug/l	1	PREM	E201956-26				
Location Identifier: WT-AC-03-082			_									
Sample Identifier 2001798	01/29/2002 13:0	5 Per	forman	ce Eval	uation -	- Wate	er					
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	Result
PCB-1016 (Arochlor 1016)	ND<0.40	U	0.40	0.120	ug/l	l	PREM	E201A46-12				
PCB-1221 (Arochlor 1221)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E201A46-12				
PCB-1232 (Arochlor 1232)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E201A46-12				
PCB-1242 (Arochlor 1242)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E201A46-12				
PCB-1248 (Arochlor 1248)	ND<0.40	U	0.40	0.120	ug/İ	1	PREM	E201A46-12				
PCB-1254 (Arochlor 1254)	6.1		0.40	0.120	ug/l	1	PREM	E201A46-12	7.53	9.94	3.86	Pass
PCB-1260 (Arochlor 1260)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E201A46-12				
Location Identifier: WT-AC-03-084												
Sample Identifier 2001800	01/29/2002 13:1	3 Per	forman	ce Evalı	uation -	- Wate	er					
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	Result
Cyanide	0.24		0.010		mg/L			E201A46-14	0.250	.317	.173	Pass

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	Reported											
Chemical Name	Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	Result
1,2,4-Trichlorobenzene	110		5.5	0.330	ug/l	1	PREM	E201A46-15	150	155	66.2 P	ass
1,2-Dichlorobenzene	19		5.5	0.400	ug/l	1	PREM	E201A46-15	27.2	30.4	6.64 P	ass
1,3-Dichlorobenzene	38		5.5	0.310	ug/l	1	PREM	E201A46-15	58.9	64.8	15.1 P	ass
1,4-Dichlorobenzene	ND<5.5	U	5.5	0.300	ug/l	1	PREM	E201A46-15				
2,4,5-Trichlorophenol	90		5.5	0.550	ug/l	1	PREM	E201A46-15	112	126	59.2 P	ass
2,4,6-Trichlorophenol	120		5.5	0.420	ug/l	1	PREM	E201A46-15	146	169	71.7 P	ass
.,4-Dichlorophenol	140		5.5	0.380	ug/l	1	PREM	E201A46-15	189	199	94.3 P	ass
,4-Dimethylphenol	90		5.5	0.640	ug/l	1	PREM	E201A46-15	123	139	49.0 P	ass
,4-Dinitrophenol	93		5.5	0.0700	ug/l	1	PREM	E201A46-15	184	191	30.1 P	ass
,4-Dinitrotoluene	45		5.5	0.600	ug/l	1	PREM	E201A46-15	55.4	64.2	28.9 P	ass
,6-Dinitrotoluene	130		5.5	0.530	ug/l	1	PREM	E201A46-15	165	193	89.1 P	ass
-Chloronaphthalene	ND<5.5	U	5.5	0.510	ug/l	1	PREM	E201A46-15				
-Chlorophenol	61		5.5	0.400	ug/l	ì	PREM	E201A46-15	87.2	96.0	39.9 P	ass
-Methylnaphthalene	ND<5.5	U	5.5	0.430	ug/l	1	PREM	E201A46-15				
-Methylphenol (o-Cresol)	18		5.5	0.420	ug/l	1	PREM	E201A46-15	30.4	36.5	10.5 P	ass
-Nitroaniline	ND<11	U	11	0.550	ug/l	1	PREM	E201A46-15				
-Nitrophenol	21		5.5	0.420	ug/l	1	PREM	E201A46-15	28.7	32.2	14.0 P	ass
,3'-Dichlorobenzidine	ND<5.5	U	5.5	0.730	ug/l	1	PREM	E201A46-15				
-Nitroaniline	ND<11	U	11	0.440	ug/l	t	PREM	E201A46-15				
,6-Dinitro-2-Methylphenol	49		5.5	0.300	ug/l	1	PREM	E201A46-15	60.2	65.9	26.3 P	ass
-Bromophenyl Phenyl ether	110		5.5	0.530	ug/l	1	PREM	E201A46-15	133	151	75.3 P	ass
-Chloro-3-Methylphenol	110		5.5	0.440	ug/l	1	PREM	E201A46-15	158	180	85.7 P	ass
-Chloroaniline	ND<11	U	11	0.410	ug/l	1	PREM	E201A46-15				
-Chlorophenyl Phenyl ether	80		5.5	0.540	ug/l	1	PREM	E201A46-15	101	113	53.1 P	ass
-Nitroaniline	ND<11	U	11	0.480	ug/l	1	PREM	E201A46-15				
-Nitrophenol	ND<5.5	U	5.5	0.290	ug/l	1	PREM	E201A46-15				
cenaphthene	62		5.5	0.450	ug/l	1	PREM	E201A46-15	83.3	93.9	43.9 P	ass
cenaphthylene	14		5.5	0.470	ug/l	1	PREM	E201A46-15	19.0	22.0	9.72 P	ass
nthracene	40		5.5	0.560	ug/l	l	PREM	E201A46-15	49.8	57.2	28.4 P	ass
enzo(a)anthracene	32		5.5	0.420	ug/i	1	PREM	E201A46-15	37.0	39.5	24.8 Pa	ess
enzo(a)pyrene	14		5.5	0.350	ug/l	1	PREM	E201A46-15	20.0	22.9	9.42 Pa	ass
Benzo(b)fluoranthene	32		5.5	0.400	ug/l	1	PREM	E201A46-15	41.4	49.8	21.3 Pa	iss
Benzo(g,h,i)perylene	ND<5.5	U	5.5	0.420	ug/l	1		E201A46-15				
enzo(k)fluoranthene	31		5.5	0.360	ug/l	1		E201A46-15	38.3	50.5	17.0 Pa	ISS



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Benzyl Butyl Phthalate	48		5.5	0.460	ug/l	1	PREM	E201A46-15	56.6	68.5	21.5	Pass
Carbazole	ND<5.5	U	5.5	0.400	ug/l	1	PREM	E201A46-15				
Chrysene	38		5.5	0.440	ug/l	1	PREM	E201A46-15	48.6	56.0	27.7	Pass
Cresol,m- & p-	ND<5.5	U	5.5	0.740	ug/l	1	PREM	E201A46-15				
Pibenz(a,h)anthracene	15		5.5	0.370	ug/l	1	PREM	E201A46-15	18.4	21.7	0	Pass
Dibenzofuran	33		11	0.480	ug/l	1	PREM	E201A46-15	43.8	49.9	21.7	Pass
Diethyl Phthalate	ND<5.5	U	5.5	0.660	ug/l	1	PREM	E201A46-15				
Dimethyl Phthalate	52		5.5	0.600	ug/l	1	PREM	E201A46-15	63.4	80.4	14.7	Pass
luoranthene	29		5.5	0.480	ug/l	1	PREM	E201A46-15	36.4	41.8	22.7	Pass
luorene	ND<5.5	U	5.5	0.540	ug/l	1	PREM	E201A46-15				
lexachlorobenzene	56		5.5	0.550	ug/l	1	PREM	E201A46-15	70.0	80.5	40.6	Pass
lexachlorobutadiene	ND<5.5	U	5.5	0.320	ug/l	1	PREM	E201A46-15				
exachlorocyclopentadiene	110		5.5	0.250	ug/l	l	PREM	E201A46-15	155	161	19.0	Pass
lexachloroethane	ND<5.5	U	5.5	0.270	ug/l	1	PREM	E201A46-15				
ndeno(1,2,3-c,d)pyrene	ND<5.5	U	5.5	0.400	ug/l	1	PREM	E201A46-15				
ophorone	ND<5.5	U	5.5	0.440	ug/l	1	PREM	E201A46-15				
Iaphthalene	93		5.5	0.390	ug/l	1	PREM	E201A46-15	133	150	55.9	Pass
litrobenzene	25		5.5	0.380	ug/l	1	PREM	E201A46-15	36.7	41.8	19.2	Pass
entachlorophenol	59		5.5	0.380	ug/l	1	PREM	E201A46-15	67.4	80.1	28.1	Pass
henanthrene	77		5.5	0.560	ug/l	ţ	PREM	E201A46-15	96.1	110	51.2	Pass
henol	16		5.5	0.360	ug/l	1	PREM	E201A46-15	63.4	70.0	0	Pass
yrene	30		5.5	0.390	ug/l	1	PREM	E201A46-15	38.2	48.4	19.6	Pass
is(2-Chloroethoxy) Methane	ND<5.5	U	5.5	0.460	ug/l	I	PREM	E201A46-15				
is(2-Chloroethyl) ether (2-Chloroethyl	22		5.5	0.350	ug/l	1	PREM	E201A46-15	38.7	44.4	18.4	Pass
is(2-Chloroisopropyl) ether	ND<11	U	11	0.310	ug/l	1	PREM	E201A46-15				
is(2-Ethylhexyl) Phthalate	39		5.5	1.77	ug/l	1	PREM	E201A46-15	44.1	55.6	24.2	Pass
i-n-Butyl Phthalate	ND<5.5	U	5.5	1.14	ug/l	1	PREM	E201A46-15				
i-n-Octylphthalate	ND<5.5	U	5.5	0.500	ug/l	1	PREM	E201A46-15				
-Nitrosodi-n-Propylamine	32		5.5	0.580	ug/l	1	PREM	E201A46-15	49.6	57.0	23.0	Pass
n-Nitrosodiphenylamine	ND<5.5	U	5.5	0.640	ug/l	I	PREM	E201A46-15				

Sample Identifier: WT-AC-03-086 Sample Identifier 2001802	01/29/2002 13:1	8 Per	forman	ce Evalı	ation	- Wate	er					
Chemical Name	Reported Concentration	Qualifiers	R.L.			Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	Result
1,1,1-Trichloroethane	47		5.0	0.184	ug/l	1	PREM	E201A46-16	39.6	47.8	30.1	Pass
1,1,2,2-Tetrachloroethane	110		5.0	0.243	ug/l	1	PREM	E201A46-16	107	135	77.3	Pass
1,1,2-Trichloroethane	140		5.0	0.175	ug/l	1	PREM	E201A46-16	135	162	105	Pass
1,1-Dichloroethane	ND<5.0	U	5.0	0.228	ug/l	1	PREM	E201A46-16				



Total Petrolei	um Hydrocarbons EPA 418.1	30		0.81	0.300	mg/L	2	PREM	E201A46-17	50.5	63.1	30.0	
Chemical Nan	me	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	Result
	entifier: WT-AC-03-087 Identifier 2001803 0	01/29/2002 13:2	l Per	forman	ice Evali	uation -	· Wate	er					
trans-1,3-Dich	hloropropene	ND<5.0	U	5.0	0.0680	ug/l	1	PREM	E201A46-16				
-	2-Dimethylbenzene)	50		5.0	0.171	ug/l	1		E201A46-16	46.7	57.0	32.7	Pass
	Sum of Isomers)	87		5.0	0.424	ug/l	1	PREM	E201A46-16	80.7	98.9	56.5	Pass
cis-1,3-Dichlo	• •	ND<5.0	U	5.0	0.139	ug/l	1	PREM	E201A46-16				
Vinyl Chlorid	de	ND<5.0	U	5.0	0.111	ug/l	1	PREM	E201A46-16				
Trichloroethyl	dene (TCE)	42		5.0	0.220	ug/l	1	PREM	E201A46-16	37.6	44.6	28.5	Pass
Toluene		12		5.0	0.188	ug/l	1	PREM	E201A46-16	10.9	13.1	8.60	Pass
Tetrachloroeth	hylene (PCE)	27		5.0	0.171	ug/1	1	PREM	E201A46-16	26.1	31.0	20.0	Pass
Styrene		ND<5.0	U	5.0	0.170	ug/l	1	PREM	E201A46-16				
Methylene Ch	•	51		5.0	0.789	ug/l	1	PREM	E201A46-16	45.7	57.4	34.6	Pass
	tyl ketone (4-Methyl-2-Penta	ND<10	Ū	10	1.89	ug/l	1	PREM					
•	ketone (2-Butanone)	ND<10	U	10	1.94	ug/l	1	PREM					- <del>-</del>
Ethylbenzene		28		5.0	0.176	ug/l	1	PREM	-	26.1	31.2	20.3	Pass
Dibromochlor		81	-	5.0	0.156	ug/l	i		E201A46-16	73.6	89.6	56.9	Pass
Chloromethan	ne	ND<5.0	U	5.0	0.148	ug/l	1	PREM	E201A46-16	23.,	_ 3.0	20.0	. 403
Chloroform	•	29	-	5.0	0.226	ug/l	1		E201A46-16	25.7	30.6	20.6	Pass
Chloroethane		ND<5.0	U	5.0	0.525	ug/l	i I	PREM		51.0	00.0	71.3	1 433
Chlorobenzen		54		5.0	0.157	ug/l	1	PREM		51.6	60.8	41.3	Pass
Carbon Tetrac		15	J	5.0	0.438	ug/l	1		E201A46-16	12.6	16.2	9.70	Pass
Carbon Disult		ND<5.0	U	5.0	0.107	ug/l	1		E201A46-16	20.0	30.7	10.5	1 433
Bromomethan	ne	23		5.0	0.127	ug/l	1		E201A46-16	20.8	30.9	10.5	Pass
Bromoform	Tometiane	72		5.0	0.172	ug/l ug/l	1		E201A46-16	60.5	71.0 75.6	47.8 46.8	Pass Pass
Benzene Bromodichlor	romathana	53 69		5.0	0.184	ug/l	1		E201A46-16 E201A46-16	48.3 59.1	57.6 71.0	39.4	Pass
Acetone		ND<20 53	U	20 5.0	2.65 0.184	ug/l	1		E201A46-16 E201A46-16	40.3	57.6	20.4	D
2-Hexanone		ND<10	U	10	1.88	ug/l	1		E201A46-16				
1,2-Dichlorop	propane	140		5.0	0.234	ug/l	1		E201A46-16	131	154	101	Pass
1.2-Dichloroe		33		5.0	0.288	ug/l	l		E201A46-16	29.1	35.9	23.4	Pass
				5.0	0.274	ug/l	1		E201A46-16	85.6	116	61.2	Pass
1,1-Dichloroe	ethana	99		- A		/1	1	DDTAA	12301 A 47 17	0.5 (	11/	(10	D.



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Location Identifier: WT- Sample Identifier 2		2/05/2002 13:2	25 Per	forman	ice Eval	uation	- Wate	er						
Chemical Name		Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	t	Result
PCB-1016 (Arochior 1016)		ND<0.40	U	0.40	0.120	ug/l	1	PREM	E202132-15					
PCB-1221 (Arochlor 1221)		ND<0.40	U	0.40	0.120	ug/l	1	PREM	E202132-15					
PCB-1232 (Arochlor 1232)		ND<0.40	U	0.40	0.120	ug/l	1	PREM	E202132-15					
PCB-1242 (Arochlor 1242)		ND<0.40	U	0.40	0.120	ug/l	1	PREM	E202132-15					
PCB-1248 (Arochlor 1248)		ND<0.40	U	0.40	0.120	ug/l	İ	PREM	E202132-15					
PCB-1254 (Arochlor 1254)		2.0		0.40	0.120	ug/l	1	PREM	E202132-15	2.04	2.69	1.04	Pass	
PCB-1260 (Arochlor 1260)		ND<0.40	U	0.40	0.120	ug/l	1	PREM	E202132-15					
ocation Identifier: WT-	-AC-03-090													
Sample Identifier 2	2001844 0	2/07/2002	Per	forman	ce Eval	uation -	- Wate	er						
hemical Name		Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Numbèr	Reference	Upper Limit	Lower Limit	:	Result
PCB-1016 (Arochlor 1016)		ND<0.40	U	0.40	0.120	ug/l	l	PREM	E202232-10					
PCB-1221 (Arochlor 1221)		ND<0.40	U	0.40	0.120	ug/l	1	PREM	E202232-10					
PCB-1232 (Arochlor 1232)		ND<0.40	U	0.40	0.120	ug/l	i	PREM	E202232-10					
PCB-1242 (Arochlor 1242)		ND<0.40	U	0.40	0.120	ug/l	1	PREM	E202232-10					
PCB-1248 (Arochlor 1248)		ND<0.40	U	0.40	0.120	ug/l	1	PREM	E202232-10					
PCB-1254 (Arochlor 1254)		6.6		0.40	0.120	ug/l	1	PREM	E202232-10	7.22	9.53	3.70	Pass	
PCB-1260 (Arochlor 1260)		ND<0.40	U	0.40	0.120	ug/l	1	PREM	E202232-10					
ocation Identifier: WT-													- "	
Sample Identifier 2	2001861 0	2/11/2002 13:0	00 Per	forman	ce Eval	uation -	· Wate	er						
Chemical Name		Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit		Result
PCB-1016 (Arochlor 1016)		ND<0.41	U	0.41	0.120	ug/l	1	PREM	E202350-17					
PCB-1221 (Arochlor 1221)		ND<0.41	U	0.41	0.120	ug/l	1	PREM	E202350-17					
PCB-1232 (Arochlor 1232)		ND<0.41	U	0.41	0.120	ug/l	1	PREM	E202350-17					
PCB-1242 (Arochlor 1242)		ND<0.41	U	0.41	0.120	ug/l	1	PREM	E202350-17					
PCB-1248 (Arochlor 1248)		ND<0.41	U	0.41	0.120	ug/l	1	PREM	E202350-17					
						_								
PCB-1254 (Arochlor 1254)		4.3		0.41	0.120	ug/l	I	PREM	E202350-17	5.09	6.72	2.61	Pass	

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Loureiro Engineering Associates, Inc.

Sample Identifier: WT-AC-03-092 Sample Identifier 2001862	02/11/2002 13:0	)5 Peri	forman	ce Evalı	uation -	· Wate	er						
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit		Result
Arsenic	0.47		0.010	0	mg/L	i	PREM	E202350-18	.484	.553	.414	Pass	
Barium	0.60		0.010	0.00068		1	PREM	E202350-18	.583	.646	.521	Pass	
Cadmium	0.14		0.0020	0.00032	0 mg/L	i	PREM	E202350-18	.155	.173	.137	Pass	
Chromium, Total	0.26		0.010	0.00074	0 mg/L	1	PREM	E202350-18	.266	.295	.238	Pass	
Copper	0.40		0.010	0.00087	0 mg/L	i	PREM	E202350-18	.413	.460	.366	Pass	
Lead	0.39			0.00175		1		E202350-18	.407	1.020	.356	Pass	
Mercury	0.015			2(0.00002	-	1	PREM		.0202	.0252	.0151	FAIL	
Nickel	0.96		0.010	0.00108	mg/L	ı	PREM	E202350-18	.991	1.100	.886	Pass	
Selenium	0.76			0.00460	-	1		E202350-18	.786	.901	.671	Pass	
Silver	0.35		0.0020	0.00627	mg/L	1	PREM		.358	.401	.314	Pass	
Zinc	1.2		0.010	0.00198	mg/L	1	PREM	E202350-18	1.330	1.500	1.170	Pass	
Sample Identifier 2001863  Chemical Name	02/11/2002 13:0  Reported  Concentration	Qualifiers	R.L.	M.D.L.		Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit		Result
Chemical Name	Reported				Units		Lab.	Lab. Number E202350-19	Reference	Upper Limit	Lower Limit		Result E POSITIV
Chemical Name Cyanide	Reported Concentration	Qualifiers	R.L. 0.010		Units mg/L	Dil.	Lab. PREM		Reference	Upper Limit	Lower Limit		
Chemical Name  Cyanide  cocation Identifier: WT-AC-03-094  Sample Identifier 2001864	Reported Concentration 0.17	Qualifiers	R.L. 0.010	M.D.L.	Units mg/L uation -	Dil.	Lab. PREM		Reference		Lower Limit	FALSI	
Chemical Name  Cyanide  Cocation Identifier: WT-AC-03-094  Sample Identifier 2001864  Chemical Name	Reported Concentration 0.17  02/11/2002 13:0 Reported	Qualifiers  9 Perf	R.L. 0.010	M.D.L.	Units mg/L uation -	Dil. 1 Wate	Lab. PREM er Lab.	E202350-19		Upper Limit		FALSI	E POSITIV
Chemical Name  Cyanide  Cocation Identifier: WT-AC-03-094  Sample Identifier 2001864  Chemical Name  1,2,4-Trichlorobenzene	Reported Concentration 0.17  02/11/2002 13:0  Reported Concentration	Qualifiers  9 Perf	R.L. 0.010 Formand R.L.	M.D.L.	Units mg/L  uation -	Dil.  I  Wate	Lab. PREM er Lab. PREM	E202350-19  Lab. Number	Reference	Upper Limit	Lower Limit	FALSI	E POSITI
Chemical Name  Cyanide  Cocation Identifier: WT-AC-03-094  Sample Identifier 2001864  Chemical Name  1,2,4-Trichlorobenzene 1,2-Dichlorobenzene	Reported Concentration 0.17  02/11/2002 13:0  Reported Concentration 98	Qualifiers  9 Perf	R.L. 0.010 Cormand R.L. 5.4	M.D.L.  Ce Evalu  M.D.L.  0.330	Units mg/L  Lation -  Units ug/l	Dil.  I  Wate	Lab. PREM  Lab. PREM PREM PREM	E202350-19  Lab. Number E202350-20	Reference	Upper Limit	Lower Limit	Pass	E POSITI
Chemical Name  Cyanide  Cocation Identifier: WT-AC-03-094  Sample Identifier 2001864  Chemical Name  1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene	Reported Concentration 0.17  02/11/2002 13:0 Reported Concentration 98 24	Qualifiers  9 Perf Qualifiers	R.L. 0.010 Formand R.L. 5.4 5.4	M.D.L. 0.330 0.400	Units mg/L  uation -  Units ug/l ug/l	Dil.  1  Water Dil.  1	Lab. PREM Lab. PREM PREM PREM PREM	E202350-19  Lab. Number E202350-20 E202350-20	Reference	Upper Limit	Lower Limit	Pass	E POSITI
Chemical Name  Cyanide  Cocation Identifier: WT-AC-03-094  Sample Identifier 2001864  Chemical Name  1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene	Reported Concentration 0.17  02/11/2002 13:0 Reported Concentration 98 24 ND<5.4	Qualifiers  9 Perf Qualifiers	R.L. 0.010 Sormano R.L. 5.4 5.4 5.4	M.D.L. 0.330 0.400 0.310	Units mg/L  Lation -  Units ug/l ug/l ug/l	Dil.  1  Water Dil.  1	Lab. PREM Lab. PREM PREM PREM PREM PREM PREM	E202350-19  Lab. Number E202350-20 E202350-20 E202350-20	Reference	Upper Limit	Lower Limit	Pass	E POSITI
Chemical Name  Cyanide  Ocation Identifier: WT-AC-03-094  Sample Identifier 2001864  Chemical Name  1,2,4-Trichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol	Reported Concentration 0.17  02/11/2002 13:0  Reported Concentration 98 24 ND<5.4 ND<5.4	Qualifiers  9 Perf Qualifiers	R.L. 0.010 Sormand R.L. 5.4 5.4 5.4 5.4 5.4	M.D.L. 0.330 0.400 0.310 0.300	Units mg/L  Lation - Units ug/l ug/l ug/l ug/l	Dil.  1  Water Dil.  1	Lab. PREM Lab. PREM PREM PREM PREM PREM PREM PREM PREM	E202350-19  Lab. Number  E202350-20 E202350-20 E202350-20 E202350-20	Reference	Upper Limit 118 33.3	Lower Limit 49.5	Pass Pass	E POSITI
Chemical Name  Cyanide  Ocation Identifier: WT-AC-03-094  Sample Identifier 2001864  Chemical Name  1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol	Reported Concentration 0.17  02/11/2002 13:0  Reported Concentration 98 24 ND<5.4 ND<5.4 74	Qualifiers  9 Perf Qualifiers	R.L. 0.010 R.L. 5.4 5.4 5.4 5.4 5.4 5.4	M.D.L. 0.330 0.400 0.310 0.300 0.550	Units mg/L  uation -  Units ug/l ug/l ug/l ug/l	Dil.  1  Water Dil.  1	Lab. PREM Lab. PREM PREM PREM PREM PREM PREM PREM PREM	E202350-19  Lab. Number  E202350-20 E202350-20 E202350-20 E202350-20 E202350-20	Reference 112 30.8	Upper Limit 118 33.3	Lower Limit 49.5 0	Pass Pass	E POSITI
Chemical Name  Cyanide  Cocation Identifier: WT-AC-03-094  Sample Identifier 2001864  Chemical Name  1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol	Reported Concentration 0.17  02/11/2002 13:0  Reported Concentration 98 24 ND<5.4 ND<5.4 74 67	Qualifiers  9 Perf Qualifiers	R.L. 0.010 R.L. 5.4 5.4 5.4 5.4 5.4 5.4 5.4	M.D.L. 0.330 0.400 0.310 0.300 0.550 0.420	Units mg/L  Lation -  Units ug/l ug/l ug/l ug/l ug/l ug/l ug/l	Dil. 1 Dil. 1 1 1 1 1 1 1	Lab. PREM  Lab. PREM PREM PREM PREM PREM PREM PREM PREM	E202350-19  Lab. Number  E202350-20  E202350-20  E202350-20  E202350-20  E202350-20  E202350-20	Reference 112 30.8 83.8 76.1	Upper Limit 118 33.3 94.2 87.8 53.9	Lower Limit 49.5 0	Pass Pass Pass	E POSITI
Chemical Name  Cyanide  Cocation Identifier: WT-AC-03-094  Sample Identifier 2001864  Chemical Name  1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol	Reported Concentration 0.17  02/11/2002 13:0  Reported Concentration 98 24 ND<5.4 ND<5.4 74 67 46	Qualifiers  9 Perf Qualifiers	R.L. 0.010 R.L. 5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4	M.D.L. 0.330 0.400 0.310 0.300 0.550 0.420 0.380	Units mg/L  Lation -  Units ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	Dil. 1 Dil. 1 1 1 1 1 1 1	Lab. PREM  Lab. PREM PREM PREM PREM PREM PREM PREM PREM	E202350-19  Lab. Number  E202350-20 E202350-20 E202350-20 E202350-20 E202350-20 E202350-20 E202350-20	Reference 112 30.8 83.8 76.1 49.0	Upper Limit 118 33.3 94.2 87.8 53.9 128	Lower Limit 49.5 0 46.0 36.1 25.0	Pass Pass Pass Pass	E POSITI
Chemical Name  Cyanide  Cocation Identifier: WT-AC-03-094 Sample Identifier 2001864  Chemical Name  1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dinitrophenol	Reported Concentration 0.17  02/11/2002 13:0  Reported Concentration 98 24 ND<5.4 ND<5.4 74 67 46 89	Qualifiers  9 Perf Qualifiers	R.L. 0.010 R.L. 5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4	M.D.L. 0.330 0.400 0.310 0.300 0.550 0.420 0.380 0.640	Units mg/L  Lation -  Units ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	Dil. 1 Dil. 1 1 1 1 1 1 1	Lab. PREM PREM PREM PREM PREM PREM PREM PREM	E202350-19  Lab. Number  E202350-20  E202350-20  E202350-20  E202350-20  E202350-20  E202350-20  E202350-20  E202350-20	Reference 112 30.8 83.8 76.1 49.0 113	Upper Limit  118 33.3  94.2 87.8 53.9 128 155	Lower Limit 49.5 0 46.0 36.1 25.0 44.8	Pass Pass Pass Pass Pass Pass	E POSITI
Chemical Name Cyanide  ocation Identifier: WT-AC-03-094	Reported Concentration 0.17  02/11/2002 13:0  Reported Concentration 98 24 ND<5.4 ND<5.4 74 67 46 89 100	Qualifiers  9 Perf Qualifiers	R.L. 0.010 R.L. 5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.	M.D.L. 0.330 0.400 0.310 0.550 0.420 0.380 0.640 0.0700	Units mg/L  Lation -  Units ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	Dil. 1 Wate Dil. 1 1 1 1 1 1 1 1 1 1 1	Lab. PREM PREM PREM PREM PREM PREM PREM PREM	E202350-19  Lab. Number  E202350-20  E202350-20  E202350-20  E202350-20  E202350-20  E202350-20  E202350-20  E202350-20  E202350-20	Reference 112 30.8 83.8 76.1 49.0 113 145	Upper Limit 118 33.3 94.2 87.8 53.9 128 155 55.8	Lower Limit 49.5 0 46.0 36.1 25.0 44.8 25.0	Pass Pass Pass Pass Pass Pass Pass	E POSITI

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rage 33										Lou		eering Associates, Inc.
2-Chlorophenol	150		5.4	0.400	ug/l	1		E202350-20	170	185	75.3	Pass
2-Methylnaphthalene	ND<5.4	U	5.4	0.430	ug/l	1	PREM	E202350-20				
2-Methylphenol (o-Cresol)	48		5.4	0.420	ug/l	1		E202350-20	71.4	92.3	17.1	Pass
2-Nitroaniline	ND<11	υ	11	0.550	ug/l	1		E202350-20				
2-Nitrophenol	26		5.4	0.420	ug/l	1		E202350-20	29.4	33.0	14.4	Pass
3,3'-Dichlorobenzidine	ND<5.4	U	5.4	0.730	ug/l	l	PREM	E202350-20				
3-Nitroaniline	ND<11	U	11	0.440	ug/l	1	PREM	E202350-20				
4,6-Dinitro-2-Methylphenol	70		5.4	0.300	ug/l	1	PREM	E202350-20	72.8	82.5	29.7	Pass
4-Bromophenyl Phenyl ether	160		5.4	0.530	ug/l	1		E202350-20	177	201	99.4	Pass
4-Chloro-3-Methylphenol	ND<5.4	U	5.4	0.440	ug/l	1	PREM	E202350-20				
4-Chloroaniline	ND<11	U	11	0.410	ug/l	1	PREM	E202350-20				
4-Chlorophenyl Phenyl ether	ND<5.4	U	5.4	0.540	ug/l	1	PREM	E202350-20				
4-Nitroaniline	ND<11	U	11	0.480	ug/l	1	PREM	E202350-20				
4-Nitrophenol	43		5.4	0.290	ug/l	1	PREM	E202350-20	60.3	69.5	0	Pass
Acenaphthene	46		5.4	0.450	ug/l	1		E202350-20	55.6	62.8	29.8	Pass
Acenaphthylene	ND<5.4	U	5.4	0.470	ug/l	1		E202350-20				
Anthracene	160		5.4	0.560	ug/l	1		E202350-20 `	172	194	84.2	Pass
Benzo(a)anthracene	ND<5.4	U	5.4	0.420	ug/l	1		E202350-20				
Benzo(a)pyrene	23		5.4	0.350	ug/l	1		E202350-20	24.7	28.2	11.8	Pass
Benzo(b)fluoranthene	ND<5.4	U	5.4	0.400	ug/l	1		E202350-20				
Benzo(g,h,i)perylene	ND<5.4	U	5.4	0.420	ug/l	1		E202350-20				
Benzo(k)fluoranthene	21		5.4	0.360	ug/l	1		E202350-20	23.9	32.8	10.5	Pass
Benzyl Butyl Phthalate	59		5.4	0.460	ug/l	1		E202350-20	65.9	87.2	15.3	Pass
Carbazole	ND<5.4	U	5.4	0.400	ug/l	l		E202350-20				
Chrysene	46		5.4	0.440	ug/l	l		E202350-20	46.4	53.5	26.6	Pass
Cresol,m- & p-	ND<5.4	U	5.4	0.740	ug/l	1		E202350-20				
Dibenz(a,h)anthracene	ND<5.4	U	5.4	0.370	ug/l	I		E202350-20				
Dibenzofuran	61		11	0.480	ug/l	1		E202350-20	71.8	93.5	23.9	Pass
Diethyl Phthalate	ND<5.4	U	5.4	0.660	ug/i	1		E202350-20				
Dimethyl Phthalate	53		5.4	0.600	ug/l	1		E202350-20	61.4	78.0	14.9	Pass
Fluoranthene	12		5.4	0.480	ug/l	1		E202350-20	13.9	15.9	10.4	Pass
Fluorene	36		5.4	0.540	ug/I	1		E202350-20	42.9	49.5	24.4	Pass
Hexachlorobenzene	34		5.4	0.550	ug/l	1		E202350-20	38.1	44.0	22.1	Pass
Hexachlorobutadiene	ND<5.4	U	5.4	0.320	ug/l	1		E202350-20				
Hexachlorocyclopentadiene	ND<5.4	U	5.4	0.250	ug/l	i		E202350-20				
Hexachloroethane	52		5.4	0.270	ug/l	1		E202350-20	72.9	77.5	21.7	Pass
Indeno(1,2,3-c,d)pyrene	ND<5.4	U	5.4	0.400	ug/l	1		E202350-20				
Isophorone	48		5.4	0.440	ug/l	1		E202350-20	55.8	64.6	.29.9	Pass
Naphthalene	79		5.4	0.390	ug/l	1	PREM	E202350-20	90.2	102	39.2	Pass
Nitrobenzene	61		5.4	0.380	ug/l	1	PREM	E202350-20	73.9	84.4	36.7	Pass



Pentachlorophenol         41         5.4         0.380         ug/l         1         PREM         E202350-20         57.8         68.6         23.3           Phenanthrene         70         5.4         0.560         ug/l         1         PREM         E202350-20         77.3         88.5         43.0           Phenol         9.6         5.4         0.360         ug/l         1         PREM         E202350-20         26.6         30.9         0           Pyrene         16         5.4         0.390         ug/l         1         PREM         E202350-20         19.0         26.5         10.0           bis(2-Chloroethoxy) Methane         ND         5.4         0.460         ug/l         1         PREM         E202350-20         19.0         26.5         10.0	gineering Associates Pass
Phenanthrene         70         5.4         0.560 ug/l         1 PREM         E202350-20         77.3         88.5         43.0           Phenol         9.6         5.4         0.360 ug/l         1 PREM         E202350-20         26.6         30.9         0           Pyrene         16         5.4         0.390 ug/l         1 PREM         E202350-20         19.0         26.5         10.0           bis(2-Chloroethoxy) Methane         ND<5.4         U         5.4         0.460 ug/l         1         PREM         E202350-20         19.0         26.5         10.0	Pass
Phenol         9.6         5.4         0.360         ug/l         1         PREM         E202350-20         26.6         30.9         0           Pyrene         16         5.4         0.390         ug/l         1         PREM         E202350-20         19.0         26.5         10.0           bis(2-Chloroethoxy) Methane         ND<5.4	1 433
Pyrene         16         5.4         0.390         ug/l         1         PREM         E202350-20         19.0         26.5         10.0           bis(2-Chloroethoxy) Methane         ND<5.4	Pass
bis(2-Chloroethoxy) Methane ND<5.4 U 5.4 0.460 ug/l 1 PREM E202350-20	Pass
	Pass
A CONTRACTOR OF THE PROPERTY O	
bis(2-Chloroethyl) ether (2-Chloroethyl ND<5.4 U 5.4 0.350 ug/l 1 PREM E202350-20	
bis(2-Chloroisopropyl) ether 56 11 0.310 ug/l 1 PREM E202350-20 131 151 32.3	Pass
bis(2-Ethylhexyl) Phthalate 90 5.4 1.77 ug/l 1 PREM E202350-20 98.2 123 39.4	Pass
di-n-Butyl Phthalate ND<5.4 U 5.4 1.14 ug/l ! PREM E202350-20	
di-n-Octylphthalate 41 5.4 0.500 ug/l 1 PREM E202350-20 44.6 57.4 19.5	Pass
n-Nitrosodi-n-Propylamine ND<5.4 U 5.4 0.580 ug/l 1 PREM E202350-20	
n-Nitrosodiphenylamine 32 5.4 0.640 ug/l 1 PREM E202350-20 41.6 50.9 17.6	Pass
ocation Identifier: WT-AC-03-095	
Sample Identifier 2001865 02/11/2002 13:11 Performance Evaluation - Water	
Chemical Name Reported Qualifiers R.L. M.D.L. Units Dil. Lab. Lab. Number Reference Upper Limit Lov	wer Limit Result
Total Petroleum Hydrocarbons EPA 418.1 41 2.0 0.750 mg/L 5 PREM E202350-21 55.6 69.5 33.4	Pass
Sample Identifier 2001866 02/11/2002 13:13 Performance Evaluation - Water  Chemical Name Reported Concentration Qualifiers R.L. M.D.L. Units Dil. Lab. Lab. Number Reference Upper Limit Low	ver Limit Result
Total Petroleum Hydrocarbons EPA 418.1 60 2.0 0.750 mg/L 5 PREM E202350-22 55.6 69.5 33.4	Pass
.'. 11'5 WT AC 02 007	
ocation Identifier: WT-AC-03-097	
Sample Identifier 2001867 02/11/2002 13:15 Performance Evaluation - Water	ver Limit Result
Reported	
Reported Qualifiers R.L. M.D.L. Units Dil. Lab. Lab. Number Reference Upper Limit Lov	Pass
Reported   Qualifiers   R.L.   M.D.L.   Units   Dil.   Lab.   Lab.   Number   Reference   Upper Limit   Low   Lab.   Lab.   Lab.   Lab.   Number   Reference   Upper Limit   Low   Lab.   Lab.   Lab.   Lab.   Number   Reference   Upper Limit   Low   Lab.   Lab.   Lab.   Number   Reference   Upper Limit   Low   Lab.   Lab.   Lab.   Lab.   Lab.   Dil.   Lab.   Lab.   Lab.   Lab.   Lab.   Number   Reference   Upper Limit   Low   Lab.	Pass
Reported   Qualifiers   R.L.   M.D.L.   Units   Dil.   Lab.   Lab.   Number   Reference   Upper Limit   Low	Pass
Reported Concentration   Qualifiers   R.L.   M.D.L.   Units   Dil.   Lab.   Lab.   Number   Reference   Upper Limit   Low	Pass
Reported Concentration   Qualifiers   R.L.   M.D.L.   Units   Dil.   Lab.   Lab.   Number   Reference   Upper Limit   Low	Pass
Reported Concentration   Qualifiers   R.L.   M.D.L.   Units   Dil.   Lab.   Lab.   Number   Reference   Upper Limit   Low	Pass Pass
Reported Concentration   Qualifiers   R.L.   M.D.L.   Units   Dil.   Lab.   Lab.   Number   Reference   Upper Limit   Low	Pass Pass
Reported Concentration   Qualifiers   R.L.   M.D.L.   Units   Dil.   Lab.   Lab.   Number   Reference   Upper Limit   Low	Pass Pass
Reported Concentration   Qualifiers   R.L.   M.D.L.   Units   Dil.   Lab.   Lab.   Number   Reference   Upper Limit   Low	Pass Pass



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Bromodichloromethane	48		5.0	0.172	ug/l	1	PREM	E202350-23	55.3	66.5	44.7	Pass
Bromoform	59		5.0	0.127	ug/l	1	PREM	E202350-23	66.4	82.9	51.5	Pass
Bromomethane	ND<5.0	U	5.0	0.167	ug/l	1	PREM	E202350-23				
Carbon Disulfide	ND<5.0	U	5.0	0.498	ug/l	1	PREM	E202350-23				
Carbon Tetrachloride	32		5.0	0.228	ug/l	1	PREM	E202350-23	33.9	43.4	25.5	Pass
Chlorobenzene	13		5.0	0.157	ug/l	1	PREM	E202350-23	14.4	16.9	12.0	Pass
Chloroethane	ND<5.0	U	5.0	0.525	ug/l	l	PREM	E202350-23				
Chloroform	13		5.0	0.226	ug/l	1	PREM	E202350-23	13.8	16.6	11.2	Pass
Chloromethane	ND<5.0	U	5.0	0.148	ug/l	1	PREM	E202350-23				
Dibromochloromethane	37		5.0	0.156	ug/l	ì	PREM	E202350-23	43.5	52.9	33.6	Pass
Ethylbenzene	24		5.0	0.176	ug/l	1	PREM	E202350-23	27.1	32.4	21.1	Pass
Methyl Ethyl ketone (2-Butanone)	ND<10	U	10	1.94	ug/l	1	PREM	E202350-23				
Methyl Isobutyl ketone (4-Methyl-2-Penta	51		10	1.89	ug/l	1	PREM	E202350-23	59.8	75.9	35.1	Pass
Methylene Chloride	25		5.0	0.789	ug/l	1	PREM	E202350-23	27.8	35.2	21.1	Pass
Styrene	ND<5.0	U	5.0	0.170	ug/l	1	PREM	E202350-23				
Tetrachloroethylene (PCE)	44		5.0	0.171	ug/l	l	PREM	E202350-23	50.3	59.3	38.5	Pass
Toluene	35		5.0	0.188	ug/l	1	PREM	E202350-23	40.2	59.3	32.4	Pass
Frichloroethylene (TCE)	23		5.0	0.220	ug/l	1	PREM	E202350-23	24.8	29.5	18.9	Pass
/inyl Chloride	ND<5.0	U	5.0	0.111	ug/l	1	PREM	E202350-23				
cis-1,3-Dichloropropene	ND<5.0	U	5.0	0.139	ug/l	1	PREM	E202350-23				
n,p-Xylene (Sum of Isomers)	ND<5.0	U	5.0	0.424	ug/l	1	PREM	E202350-23				
o-Xylene (1,2-Dimethylbenzene)	ND<5.0	U	5.0	0.171	ug/l	1	PREM	E202350-23				
rans-1,3-Dichloropropene	ND<5.0	U	5.0	0.0680	ug/l	1	PREM	E202350-23				
ocation Identifier: WT-AC-03-098		<del></del>										
Sample Identifier 2001889	02/14/2002 13:3	0 Per	forman	ice Evali	uation	- Wat	er					
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limi	it Result
PCB-1016 (Arochlor 1016)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E202511-15				
PCB-1221 (Arochlor 1221)	ND<0.40	U	0.40	0.120	ug/l	I	PREM	E202511-15				
PCB-1232 (Arochlor 1232)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E202511-15				
PCB-1242 (Arochlor 1242)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E202511-15				
PCB-1248 (Arochlor 1248)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E202511-15				
PCB-1254 (Arochlor 1254)	5.7		0.40	0.120	ug/l	1	PREM	E202511-15	6.11	8.07	3.13	Pass
PCB-1260 (Arochlor 1260)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E202511-15				
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Sample Identifier	/T-AC-03-099 2001 <b>8</b> 90	02/14/2002 13:3	2 Per	forman	ice Eval	uation	- Wat	er			· ·			
Chemical Name		Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit		Result
Arsenic		0.22		0.010	0	mg/L	1	PREM	E202511-16	.227	.259	.194	Pass	
Barium		0.49		0.010	0.00068	80 mg/l_	1	PREM	E202511-16	.486	.538	.434	Pass	
Cadmium		0.047		0.002	0.00032	20 mg/L	I	PREM	E202511-16	.0509	.056	.045	Pass	
Chromium, Total		0.22		0.010	0.00074	40 mg/L	1	PREM	E202511-16	.233	.258	.208	Pass	
Copper		0.15		0.010	0.00083	70 mg/L	1	PREM	E202511-16	.156	.174	.138	Pass	
ead		0.30		0.004	0 0.00175	5 mg/L	1	PREM	E202511-16	.313	.352	.275	Pass	
Mercury		0.0025		0.000	2(0.00002	22 mg/L	l	PREM	E202511-16	.0034	.00425	.00254	FAIL	
Nickel		0.18			0.00108	-	1	PREM		.184	.203	.164	Pass	
Selenium		0.27		0.010	0.00460	mg/L	1	PREM	E202511-16	.277	.318	.236	Pass	
Silver		0.35		0.002	0 0.00623	7 mg/L	1	PREM	E202511-16	.370	.414	.325	Pass	
Zinc		0.13		0.010	0.00198	3 mg/L	1	PREM	E202511-16	.137	.154	.120	Pass	
hemical Name		Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit		Resul
		•	Qualifiers	R.L. 0.010			Dil. 1		E202511-17	Reference	Upper Limit	Lower Limit	Pass	Result
yanide ocation Identifier: W		Concentration 0.19		0.010		mg/L	1	PREM						Resul
Cyanide	/T-AC-03-101 2001892	Concentration 0.19 02/14/2002 13:3		0.010		mg/L	1	PREM						Resul
yanide ocation Identifier: W Sample Identifier		Concentration 0.19		0.010		mg/l.	1	PREM				.128	Pass	
Eyanide  ocation Identifier: W  Sample Identifier  Chemical Name		Concentration 0.19  02/14/2002 13:3  Reported	7 Per	0.010 forman R.L. 5.3	ce Eval	mg/l.	l · Wate	PREM Lab. PREM	E202511-17  Lab. Number E202511-18	193	Upper Limit	.128	Pass	Resul
Cyanide  ocation Identifier: W Sample Identifier  Chemical Name  ,2,4-Trichlorobenzene		Concentration 0.19  02/14/2002 13:3  Reported Concentration	7 Per	0.010 forman R.L. 5.3 5.3	ce Eval	mg/l.  uation -  Units  ug/l  ug/l	Wate Dil.	PREM Lab. PREM PREM	E202511-17  Lab. Number E202511-18 E202511-18	.193	Upper Limit	.128 Lower Limit	Pass	
Ocation Identifier: W Sample Identifier Chemical Name ,2,4-Trichlorobenzene ,2-Dichlorobenzene ,3-Dichlorobenzene		Concentration 0.19  02/14/2002 13:3  Reported Concentration 80	7 Per	0.010 forman R.L. 5.3 5.3 5.3	ce Eval M.D.L. 0.330 0.400 0.310	mg/l. uation - Units ug/l	Wate Dil.	PREM Lab. PREM PREM PREM	E202511-17  Lab. Number E202511-18 E202511-18 E202511-18	Reference	Upper Limit	Lower Limit 50.4	Pass	
Cyanide  ocation Identifier: W Sample Identifier Chemical Name  ,2,4-Trichlorobenzene ,2-Dichlorobenzene ,3-Dichlorobenzene		02/14/2002 13:3  Reported Concentration 80 24	7 Per	0.010 forman R.L. 5.3 5.3 5.3 5.3	ce Eval M.D.L. 0.330 0.400 0.310 0.300	mg/l.  uation -  Units  ug/l  ug/l  ug/l	- Wate Dil. I	PREM Lab. PREM PREM PREM PREM PREM	E202511-17  Lab. Number E202511-18 E202511-18 E202511-18 E202511-18	Reference	Upper Limit 118 40.8	Lower Limit 50.4	Pass	
Cyanide  Docation Identifier: We Sample Identifier  Chemical Name  7.2,4-Trichlorobenzene 7.2-Dichlorobenzene 7.3-Dichlorobenzene 7.4-Dichlorobenzene		Concentration 0.19  02/14/2002 13:3  Reported Concentration 80 24 ND<5.3 60 100	7 Per	0.010 forman R.L. 5.3 5.3 5.3 5.3 5.3	0.330 0.400 0.310 0.300 0.550	mg/l.  uation -  Units  ug/l  ug/l  ug/l  ug/l  ug/l	- Wate Dil. I	PREM Lab. PREM PREM PREM PREM PREM PREM PREM	E202511-17  Lab. Number E202511-18 E202511-18 E202511-18 E202511-18 E202511-18	Reference 114 37.0	Upper Limit 118 40.8	Lower Limit 50.4	Pass Pass Pass	
cyanide  cocation Identifier: W  Sample Identifier  hemical Name  ,2,4-Trichlorobenzene ,2-Dichlorobenzene ,3-Dichlorobenzene ,4-Dichlorobenzene ,4,5-Trichlorophenol		Concentration 0.19 02/14/2002 13:3 Reported Concentration 80 24 ND<5.3 60	7 Per	0.010 forman R.L. 5.3 5.3 5.3 5.3	ce Eval M.D.L. 0.330 0.400 0.310 0.300	mg/l.  uation -  Units  ug/l  ug/l  ug/l	- Wate Dil. I	PREM Lab. PREM PREM PREM PREM PREM PREM PREM	E202511-17  Lab. Number E202511-18 E202511-18 E202511-18 E202511-18	Reference 114 37.0 98.0	Upper Limit 118 40.8	Lower Limit 50.4 0	Pass Pass Pass	
Cyanide  Docation Identifier: W  Sample Identifier  Chemical Name  (2,4-Trichlorobenzene (,2-Dichlorobenzene (,3-Dichlorobenzene (,4-Dichlorobenzene (,4,5-Trichlorophenol (,4,6-Trichlorophenol		Concentration 0.19  02/14/2002 13:3  Reported Concentration 80 24 ND<5.3 60 100	7 Per	0.010 forman R.L. 5.3 5.3 5.3 5.3 5.3	0.330 0.400 0.310 0.300 0.550	mg/l.  uation -  Units  ug/l  ug/l  ug/l  ug/l  ug/l	- Wate Dil. I	PREM Lab. PREM PREM PREM PREM PREM PREM PREM	E202511-17  Lab. Number E202511-18 E202511-18 E202511-18 E202511-18 E202511-18	Reference 114 37.0 98.0 147	.254  Upper Limit 118 40.8  107 165 176	Lower Limit 50.4 0 0 75.6	Pass Pass Pass Pass	
yanide  cocation Identifier: W Sample Identifier  hemical Name  ,2,4-Trichlorobenzene ,2-Dichlorobenzene ,3-Dichlorobenzene ,4-Dichlorobenzene ,4,5-Trichlorophenol ,4,6-Trichlorophenol		Concentration 0.19  02/14/2002 13:3  Reported Concentration 80 24 ND<5.3 60 100 110	7 Per	0.010 forman R.L. 5.3 5.3 5.3 5.3 5.3 5.3	Ce Eval M.D.L. 0.330 0.400 0.310 0.300 0.550 0.420	mg/l.  uation -  Units  ug/l  ug/l  ug/l  ug/l  ug/l  ug/l	- Wate Dil. I	PREM PREM PREM PREM PREM PREM PREM PREM	E202511-17  Lab. Number  E202511-18  E202511-18  E202511-18  E202511-18  E202511-18	Reference 114 37.0 98.0 147 152	Upper Limit 118 40.8 107 165 176 119	Lower Limit 50.4 0 0 75.6 74.6	Pass Pass Pass Pass Pass	
Syanide  Docation Identifier: W  Sample Identifier  Themical Name  2,4-Trichlorobenzene  3-Dichlorobenzene  4-Dichlorobenzene  4,5-Trichlorophenol  4,6-Trichlorophenol  4-Dichlorophenol  4-Dimethylphenol		Concentration 0.19  02/14/2002 13:3  Reported Concentration 80 24 ND<5.3 60 100 110 88	7 Per	0.010  R.L.  5.3 5.3 5.3 5.3 5.3 5.3 5.3	Ce Eval 0.330 0.400 0.310 0.300 0.550 0.420 0.380	mg/l.  uation -  Units  ug/l  ug/l  ug/l  ug/l  ug/l  ug/l  ug/l  ug/l	- Wate Dil. I	PREM PREM PREM PREM PREM PREM PREM PREM	E202511-17  Lab. Number  E202511-18  E202511-18  E202511-18  E202511-18  E202511-18  E202511-18	Reference 114 37.0 98.0 147 152 112	Upper Limit 118 40.8 107 165 176 119 104	Lower Limit 50.4 0 0 75.6 74.6 56.2	Pass Pass Pass Pass Pass Pass Pass	
Cyanide  ocation Identifier: W Sample Identifier  Chemical Name  2,4-Trichlorobenzene  3-Dichlorobenzene  4-Dichlorobenzene  4,5-Trichlorophenol  4,4,6-Trichlorophenol  4-Dichlorophenol  4-Dichlorophenol  4-Dimethylphenol  4-Dinitrophenol		Concentration 0.19  02/14/2002 13:3  Reported Concentration 80 24 ND<5.3 60 100 110 88 70	7 Per	0.010  R.L.  5.3 5.3 5.3 5.3 5.3 5.3 5.3 5.3 5.3	0.330 0.400 0.310 0.300 0.550 0.420 0.380 0.640	mg/l.  uation -  Units  ug/l  ug/l  ug/l  ug/l  ug/l  ug/l  ug/l  ug/l	- Wate Dil. I	PREM PREM PREM PREM PREM PREM PREM PREM	E202511-17  Lab. Number  E202511-18  E202511-18  E202511-18  E202511-18  E202511-18  E202511-18  E202511-18	Reference 114 37.0 98.0 147 152 112 92.2	Upper Limit 118 40.8 107 165 176 119 104 117	Lower Limit 50.4 0 0 75.6 74.6 56.2 36.0 19.7	Pass Pass Pass Pass Pass Pass Pass	
Chemical Name Cyanide  Ocation Identifier: W Sample Identifier Chemical Name  1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,4-Dichlorobenzene 1,4-5-Trichlorophenol 1,4-Dichlorophenol 1,4-Dimethylphenol 1,4-Dimitrophenol 1,4-Dinitrotoluene 1,6-Dinitrotoluene		Concentration 0.19  02/14/2002 13:3  Reported Concentration 80 24 ND<5.3 60 100 110 88 70 66	7 Per	0.010  R.L.  5.3 5.3 5.3 5.3 5.3 5.3 5.3 5.3 5.3 5	0.330 0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700	mg/l.  uation -  Units  ug/l   Dil.  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E202511-17  Lab. Number  E202511-18  E202511-18  E202511-18  E202511-18  E202511-18  E202511-18  E202511-18  E202511-18	Reference 114 37.0 98.0 147 152 112 92.2 105	Upper Limit 118 40.8 107 165 176 119 104 117	Lower Limit 50.4 0 75.6 74.6 56.2 36.0 19.7	Pass Pass Pass Pass Pass Pass Pass Pass		

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Page 57									Lou	ureiro Engine	ering Associate	s. Inc.
2-Chlorophenol	81		5.3	0.400	ug/l	I	PREM E202511-18	131	143	58.6	Pass	-,
2-Methylnaphthalene	ND<5.3	U	5.3	0.430	ug/l	1	PREM E202511-18					
2-Methylphenol (o-Cresol)	10		5.3	0.420	ug/l	1	PREM E202511-18	20.5	23.4	0	Pass	
2-Nitroaniline	ND<10	U	10	0.550	ug/l	1	PREM E202511-18					
2-Nitrophenol	14		5.3	0.420	ug/l	1	PREM E202511-18	21.3	23.7	10.6	Pass	
3,3'-Dichlorobenzidine	ND<5.3	Ü	5.3	0.730	ug/l	1	PREM E202511-18					
3-Nitroaniline	ND<10	U	10	0.440	ug/l	1	PREM E202511-18					
4,6-Dinitro-2-Methylphenol	ND<5.3	U	5.3	0.300	ug/l	1	PREM E202511-18					
4-Bromophenyl Phenyl ether	ND<5.3	U	5.3	0.530	ug/l	1	PREM E202511-18					
4-Chloro-3-Methylphenol	48		5.3	0.440	ug/l	1	PREM E202511-18	58.5	66.4	30.7	Pass	
4-Chloroaniline	ND<10	U	10	0.410	ug/l	1	PREM E202511-18					
4-Chlorophenyl Phenyl ether	70		5.3	0.540	ug/l	1	PREM E202511-18	95.2	107	50.4	Pass	
4-Nitroaniline	ND<10	U	10	0.480	ug/l	1	PREM E202511-18					
4-Nitrophenol	27		5.3	0.290	ug/l	1	PREM E202511-18	78.4	88.1	0	Pass	
Acenaphthene	ND<5.3	U	5.3	0.450	ug/l	1	PREM E202511-18					
Acenaphthylene	28		5.3	0.470	ug/l	1	PREM E202511-18	39.8	44.0	20.9	Pass	
Anthracene	67		5.3	0.560	ug/l	1	PREM E202511-18 '	91.1	104	47.2	Pass	
Benzo(a)anthracene	35		5.3	0.420	ug/l	1	PREM E202511-18	42.7	46.0	28.3	Pass	
Benzo(a)pyrene	ND<5.3	U	5.3	0.350	ug/l	1	PREM E202511-18					
Benzo(b)fluoranthene	40		5.3	0.400	ug/l	1	PREM E202511-18	57.6	70.1	27.2	Pass	
Benzo(g,h,i)perylene	22		5.3	0.420	ug/l	1	PREM E202511-18	22.8	28.8	0	Pass	
Benzo(k)fluoranthene	ND<5.3	U	5.3	0.360	ug/l	1	PREM E202511-18					
Benzyl Butyl Phthalate	ND<5.3	U	5.3	0.460	ug/l	1	PREM E202511-18					
Carbazole	ND<5.3	U	5.3	0.400	ug/l	1	PREM E202511-18					
Chrysene	50		5.3	0.440	ug/l	1	PREM E202511-18	60.3	69.7	33.5	Pass	
Cresol,m- & p-	ND<5.3	U	5.3	0.740	ug/l	1	PREM E202511-18					
Dibenz(a,h)anthracene	28		5.3	0.370	ug/l	1	PREM E202511-18	29.8	36.5	13.1	Pass	
Dibenzofuran	100		10	0.480	ug/l	1	PREM E202511-18	148	179	45.4	Pass	
Diethyl Phthalate	59		5.3	0.660	ug/l	1	PREM E202511-18	80.9	103	22.0	Pass	
Dimethyl Phthalate	42		5.3	0.600	ug/l	1	PREM E202511-18	58.6	74.6	15.3	Pass	
Fluoranthene	ND<5.3	U	5.3	0.480	ug/l	1	PREM E202511-18					
Fluorene	31		5.3	0.540	ug/l	1	PREM E202511-18	42.2	48.7	24.1	Pass	
Hexachlorobenzene	ND<5.3	U	5.3	0.550	ug/l	i	PREM E202511-18					
Hexachlorobutadiene	110		5.3	0.320	ug/l	1	PREM E202511-18	166	170	57.6	Pass	
Hexachlorocyclopentadiene	ND<5.3	U	5.3	0.250	ug/l	1	PREM E202511-18					
Hexachloroethane	ND<5.3	U	5.3	0.270	ug/l	1	PREM E202511-18					
Indeno(1,2,3-c,d)pyrene	33		5.3	0.400	ug/l	1	PREM E202511-18	37.8	43.3	14.2	Pass	
Isophorone	100		5.3	0.440	ug/l	1	PREM E202511-18	139	162	.70.0	Pass	
Naphthalene	87		5.3	0.390	ug/l	1	PREM E202511-18	140	158	58.6	Pass	
Nitrobenzene	41		5.3	0.380	ug/l	I	PREM E202511-18	56.8	64.8	28.6	Pass	



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Pentachlorophenol	99		5.3	0.380	ug/l	1	DD EM	E202511-18	128	Loureir 153	o Engineer 58.0	-	ooolacce
Phenanthrene	41		5.3	0.560	ug/l	1 f		E202511-18	53.5	60.7	32.6	Pass Pass	
Phenol	12		5.3	0.360	ug/l	1		E202511-18	41.2	46.4	0	Pass	
Pyrene	27		5.3	0.390	ug/l	1		E202511-18	35.4	45.2	18.2	Pass	
bis(2-Chloroethoxy) Methane	29		5.3	0.390	-	1		E202511-18	47.2	50.8	24.9		
bis(2-Chloroethyl) ether (2-Chloroethyl	ND<5.3	U	5.3	0.460	ug/i ug/l	,		E202511-18	47.2	30.8	24.9	Pass	
bis(2-Chloroisopropyl) ether	ND~3.3	U	3.3 10	0.330	_	1		E202511-18	33.4	35.0	14.0		
bis(2-Ethylhexyl) Phthalate	88		5.3	1.77	ug/l	1		E202511-18	33.4 121	33.0 151	45.8	Pass	
	30		5.3	1.77	ug/l	1		E202511-18	37.6	47.8			
di-n-Butyl Phthalate di-n-Octylphthalate	ND<5.3	U	5.3	0.500	ug/l	1		E202511-18	37.0	47.8	20.7	Pass	
	ND<3.3 82	U	5.3	0.580	ug/l	1		E202511-18	131	140	(2.4	D	
n-Nitrosodi-n-Propylamine	82 ND<5.3	U	5.3		ug/l	1		E202511-18	131	149	62.4	Pass	
n-Nitrosodiphenylamine	ND<3.3	U	3.3	0.640	ug/l	i 	PREM	E202511-18					
Location Identifier: WT-AC-03-102													
Sample Identifier 2001893	02/14/2002 13:3	9 Peri	forman	ce Eval	uation -	- Wate	er		=				
Chemical Name	Reported	Oualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limi	t	Result
Chemital Palite	Concentration	<b>*********</b>											
Total Petroleum Hydrocarbons EPA 418.1  Location Identifier: WT-AC-03-103	Concentration 71 02/14/2002 13:4		2.0	0.750	mg/L uation -		· · · · · · · · · · · · · · · · · · ·	E202511-19	69.5	86.9	41.7	Pass	
Total Petroleum Hydrocarbons EPA 418.1  Location Identifier: WT-AC-03-103  Sample Identifier 2001894	71 02/14/2002 13:4 Reported	0 Peri	2.0 forman	0.750 ce Eval	uation -	· Wate	er						Result
Total Petroleum Hydrocarbons EPA 418.1  Location Identifier: WT-AC-03-103  Sample Identifier 2001894  Chemical Name	71  02/14/2002 13:4  Reported  Concentration		2.0 forman	0.750 ce Eval	uation -	- Wate	er Lab.	Lab. Number	Reference	Upper Limit	Lower Limi	t	Result
Total Petroleum Hydrocarbons EPA 418.1  Location Identifier: WT-AC-03-103  Sample Identifier 2001894  Chemical Name  1,1,1-Trichloroethane	71 02/14/2002 13:4 Reported Concentration 35	0 Peri	2.0 forman R.L. 5.0	0.750 ce Evali M.D.L. 0.184	uation - Units ug/l	- Wate	er Lab. PREM	Lab. Number E202511-20					Result
Total Petroleum Hydrocarbons EPA 418.1  Location Identifier: WT-AC-03-103  Sample Identifier 2001894  Chemical Name  1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane	71 02/14/2002 13:4 Reported Concentration 35 ND<5.0	0 Peri	2.0 forman R.L. 5.0 5.0	0.750 ce Evalu M.D.L. 0.184 0.243	uation - Units ug/l ug/l	Dil.	er Lab. PREM PREM	Lab. Number E202511-20 E202511-20	Reference	Upper Limit	Lower Limi	t Pass	Result
Total Petroleum Hydrocarbons EPA 418.1  Location Identifier: WT-AC-03-103 Sample Identifier 2001894  Chemical Name 1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane	71 02/14/2002 13:4 Reported Concentration 35 ND<5.0 120	Qualifiers	2.0 forman R.L. 5.0 5.0 5.0	0.750 ce Evalu M.D.L 0.184 0.243 0.175	uation - Units ug/l ug/l ug/l	Dil.	Er Lab. PREM PREM PREM	Lab. Number E202511-20 E202511-20 E202511-20	Reference	Upper Limit	Lower Limi	t	Result
Total Petroleum Hydrocarbons EPA 418.1  Location Identifier: WT-AC-03-103 Sample Identifier 2001894  Chemical Name  1,1,1-Trichloroethane 1,1,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane	71  02/14/2002 13:4  Reported Concentration 35 ND<5.0 120 ND<5.0	0 Peri	2.0 forman R.L. 5.0 5.0 5.0 5.0	0.750 ce Evalu M.D.L. 0.184 0.243 0.175 0.228	uation - Units ug/l ug/l ug/l ug/l	Dil.  1 1 1 1	Er Lab. PREM PREM PREM PREM	Lab. Number E202511-20 E202511-20 E202511-20 E202511-20	Reference 34.7	Upper Limit 41.9	Lower Limi 26.4	t Pass	Result
Total Petroleum Hydrocarbons EPA 418.1  Location Identifier: WT-AC-03-103 Sample Identifier 2001894  Chemical Name 1,1,1-Trichloroethane 1,1,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethane	71  02/14/2002 13:4  Reported Concentration 35 ND<5.0 120 ND<5.0 13	Qualifiers	2.0 forman R.L. 5.0 5.0 5.0 5.0 5.0	0.750 ce Evalu M.D.L. 0.184 0.243 0.175 0.228 0.274	uation - Units ug/l ug/l ug/l ug/l ug/l	Dil.  1 1 1 1 1	PREM PREM PREM PREM PREM PREM	Lab. Number E202511-20 E202511-20 E202511-20 E202511-20 E202511-20	Reference 34.7 129 12.4	Upper Limit 41.9 154	Lower Limi 26.4 101 7.81	t Pass Pass Pass	Result
Total Petroleum Hydrocarbons EPA 418.1  Location Identifier: WT-AC-03-103 Sample Identifier 2001894  Chemical Name  1,1,1-Trichloroethane 1,1,2-Tetrachloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethane	71  02/14/2002 13:4  Reported Concentration 35 ND<5.0 120 ND<5.0 13 44	Qualifiers U	2.0 forman R.L. 5.0 5.0 5.0 5.0 5.0 5.0	0.750 ce Evalu M.D.L. 0.184 0.243 0.175 0.228 0.274 0.288	Units  Units  Ug/l  ug/l  ug/l  ug/l  ug/l  ug/l  ug/l	- Wate Dil. 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM	Lab. Number E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20	Reference 34.7	Upper Limit 41.9	Lower Limi 26.4	t Pass	Result
Total Petroleum Hydrocarbons EPA 418.1  Location Identifier: WT-AC-03-103 Sample Identifier 2001894  Chemical Name  1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethane 1,2-Dichloropropane	71  02/14/2002 13:4  Reported Concentration 35 ND<5.0 120 ND<5.0 13 44 ND<5.0	Qualifiers  U  U	2.0 forman R.L. 5.0 5.0 5.0 5.0 5.0 5.0 5.0	0.750 ce Evalu M.D.L. 0.184 0.243 0.175 0.228 0.274 0.288 0.234	uation - Units ug/l ug/l ug/l ug/l ug/l ug/l ug/l	Dil.  1 1 1 1 1	Lab. PREM PREM PREM PREM PREM PREM PREM PREM	Lab. Number  E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20	Reference 34.7 129 12.4	Upper Limit 41.9 154	Lower Limi 26.4 101 7.81	t Pass Pass Pass	Result
Total Petroleum Hydrocarbons EPA 418.1  Location Identifier: WT-AC-03-103 Sample Identifier 2001894  Chemical Name  1,1,1-Trichloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethane 1,2-Dichloropropane 2-Hexanone	71  02/14/2002 13:4  Reported Concentration 35 ND<5.0 120 ND<5.0 13 44 ND<5.0 ND<10	Qualifiers  U  U  U  U	2.0 forman R.L. 5.0 5.0 5.0 5.0 5.0 5.0 5.0	0.750 ce Evalu M.D.L. 0.184 0.243 0.175 0.228 0.274 0.288 0.234 1.88	uation - Units ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	Dil.  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	Lab. Number  E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20	Reference 34.7 129 12.4	Upper Limit 41.9 154	Lower Limi 26.4 101 7.81	t Pass Pass Pass	Result
Total Petroleum Hydrocarbons EPA 418.1  Location Identifier: WT-AC-03-103 Sample Identifier 2001894  Chemical Name  1.1,1-Trichloroethane 1.1,2-Trichloroethane 1.1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloropropane 2-Hexanone Acetone	71  02/14/2002 13:4  Reported Concentration 35 ND<5.0 120 ND<5.0 13 44 ND<5.0 ND<10 ND<20	Qualifiers  U  U	2.0 forman R.L. 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.	0.750 ce Evalu 0.184 0.243 0.175 0.228 0.274 0.288 0.234 1.88 2.65	uation - Units ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	Dil.  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Lab. PREM PREM PREM PREM PREM PREM PREM PREM	Lab. Number  E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20	Reference 34.7 129 12.4 44.7	Upper Limit 41.9 154 18.8 54.8	Lower Limi 26.4 101 7.81 35.7	Pass Pass Pass Pass Pass	Result
Total Petroleum Hydrocarbons EPA 418.1  Location Identifier: WT-AC-03-103 Sample Identifier 2001894  Chemical Name  1.1,1-Trichloroethane 1.1,2-Trichloroethane 1.1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloropropane 2-Hexanone Acetone Benzene	71  02/14/2002 13:4  Reported Concentration 35 ND<5.0 120 ND<5.0 13 44 ND<5.0 ND<10 ND<10 ND<20 28	Qualifiers  U  U  U  U	2.0 Forman R.L. 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.	0.750 ce Evalu 0.184 0.243 0.175 0.228 0.274 0.288 0.234 1.88 2.65 0.184	uation - Units  ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/	Dil.  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Lab. PREM PREM PREM PREM PREM PREM PREM PREM	Lab. Number  E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20	Reference 34.7 129 12.4 44.7	Upper Limit 41.9 154 18.8 54.8	Lower Limi 26.4 101 7.81 35.7	Pass Pass Pass Pass Pass	Result
Total Petroleum Hydrocarbons EPA 418.1  Location Identifier: WT-AC-03-103 Sample Identifier 2001894  Chemical Name  1,1,1-Trichloroethane 1,1,2-Tetrachloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloropropane 2-Hexanone Acetone Benzene	71  02/14/2002 13:4  Reported Concentration 35 ND<5.0 120 ND<5.0 13 44 ND<5.0 ND<10 ND<20 28 56	Qualifiers  U  U  U  U	2.0 Forman R.L. 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.	0.750 ce Evalu 0.184 0.243 0.175 0.228 0.274 0.288 0.234 1.88 2.65	uation - Units ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	Dil.  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	Lab. Number  E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20	Reference  34.7  129  12.4  44.7  29.3  59.1	Upper Limit 41.9 154 18.8 54.8	Lower Limi 26.4 101 7.81 35.7	Pass Pass Pass Pass Pass	Result
Total Petroleum Hydrocarbons EPA 418.1  Location Identifier: WT-AC-03-103 Sample Identifier 2001894  Chemical Name  1,1,1-Trichloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethane 1,2-Dichloropropane 2-Hexanone Acetone Benzene Bromodichloromethane	71  02/14/2002 13:4  Reported Concentration 35 ND<5.0 120 ND<5.0 13 44 ND<5.0 ND<10 ND<10 ND<20 28	Qualifiers  U  U  U  U	2.0 Forman R.L. 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.	0.750  ce Evalu 0.184 0.243 0.175 0.228 0.274 0.288 0.234 1.88 2.65 0.184	uation - Units  ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/	Dil.  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	Lab. Number  E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20	Reference 34.7 129 12.4 44.7	Upper Limit 41.9 154 18.8 54.8	Lower Limi 26.4 101 7.81 35.7	Pass Pass Pass Pass Pass	Result
Total Petroleum Hydrocarbons EPA 418.1  Location Identifier: WT-AC-03-103 Sample Identifier 2001894  Chemical Name  1,1,1-Trichloroethane 1,1,2-Trichloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethane 1,2-Dichloropropane 2-Hexanone Acetone Benzene Bromodichloromethane Bromoform	71  02/14/2002 13:4  Reported Concentration 35 ND<5.0 120 ND<5.0 13 44 ND<5.0 ND<10 ND<20 28 56	Qualifiers  U  U  U  U	2.0 Forman R.L. 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.	0.750  ce Evalu 0.184 0.243 0.175 0.228 0.274 0.288 0.234 1.88 2.65 0.184 0.172	uation - Units  ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/	- Water Dil.  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	Lab. Number  E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20	Reference  34.7  129  12.4  44.7  29.3  59.1	Upper Limit 41.9 154 18.8 54.8	Lower Limi 26.4 101 7.81 35.7	Pass Pass Pass Pass Pass Pass	Result
Total Petroleum Hydrocarbons EPA 418.1  Location Identifier: WT-AC-03-103  Sample Identifier 2001894  Chemical Name  1,1,1-Trichloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethane 1,2-Dichloropropane 2-Hexanone Acetone Benzene Bromodichloromethane Bromoform Bromomethane	71  02/14/2002 13:4  Reported Concentration 35 ND<5.0 120 ND<5.0 13 44 ND<5.0 ND<10 ND<10 ND<20 28 56 54	Qualifiers  U  U  U  U  U	2.0 Forman  R.L.  5.0  5.0  5.0  5.0  5.0  5.0  5.0	0.750  ce Evalu 0.184 0.243 0.175 0.228 0.274 0.288 0.234 1.88 2.65 0.184 0.172 0.127	uation - Units ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	- Water Dil.  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Lab. PREM PREM PREM PREM PREM PREM PREM PREM	Lab. Number  E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20	Reference  34.7  129  12.4  44.7  29.3  59.1	Upper Limit 41.9 154 18.8 54.8	Lower Limi 26.4 101 7.81 35.7	Pass Pass Pass Pass Pass Pass	Result
Total Petroleum Hydrocarbons EPA 418.1  Location Identifier: WT-AC-03-103	71  02/14/2002 13:4  Reported Concentration 35 ND<5.0 120 ND<5.0 13 44 ND<5.0 ND<10 ND<10 ND<20 28 56 54 ND<5.0	Qualifiers  U  U  U  U  U	2.0 Forman R.L. 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.	0.750  ce Evalu 0.184 0.243 0.175 0.228 0.274 0.288 0.234 1.88 2.65 0.184 0.172 0.127 0.167	uation - Units ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	- Water Dil.  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Lab. PREM PREM PREM PREM PREM PREM PREM PREM	Lab. Number  E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20 E202511-20	Reference  34.7  129  12.4  44.7  29.3  59.1	Upper Limit 41.9 154 18.8 54.8	Lower Limi 26.4 101 7.81 35.7	Pass Pass Pass Pass Pass Pass	Result



Page 59										Loureir	o Engineeri	ng Ass	ociates, Inc.
Chloroethane	ND<5.0	U	5.0	0.525	ug/l	1	PREM	E202511-20					
Chloroform	48		5.0	0.226	ug/l	1	PREM	E202511-20	48.4	57.3	38.4	Pass	
Chloromethane	ND<5.0	U	5.0	0.148	ug/l	1	PREM	E202511-20					
Dibromochloromethane	43		5.0	0.156	ug/l	1	PREM	E202511-20	46.0	56.0	35.5	Pass	
Ethylbenzene	14		5.0	0.176	ug/l	1	PREM	E202511-20	15.0	17.9	11.8	Pass	
Methyl Ethyl ketone (2-Butanone)	ND<10	U	10	1.94	ug/l	1	PREM	E202511-20					
Methyl Isobutyl ketone (4-Methyl-2-Penta	84		10	1.89	ug/l	i	PREM	E202511-20	83.1	111	52.5	Pass	
Methylene Chloride	29		5.0	0.789	ug/l	1	PREM	E202511-20	29.8	37.7	22.6	Pass	
Styrene	ND<5.0	U	5.0	0.170	ug/l	1	PREM	E202511-20					
Tetrachloroethylene (PCE)	35		5.0	0.171	ug/i	1	PREM	E202511-20	36.2	42.8	27.7	Pass	
Toluene	18		5.0	0.188	ug/l	1	PREM	E202511-20	19.3	22.7	15.4	Pass	
Trichloroethylene (TCE)	36		5.0	0.220	ug/i	1	PREM	E202511-20	35.6	42.3	27.0	Pass	
Vinyl Chloride	ND<5.0	U	5.0	0.111	ug/l	1	PREM	E202511-20					
cis-1,3-Dichloropropene	ND<5.0	U	5.0	0.139	ug/l	1	PREM	E202511-20					
m,p-Xylene (Sum of Isomers)	23		5.0	0.424	ug/l	1	PREM	E202511-20	23.1	28.6	16.1	Pass	
o-Xylene (1,2-Dimethylbenzene)	34		5.0	0.171	ug/l	1	PREM	E202511-20	37.2	46.1	26.0	Pass	
trans-1,3-Dichloropropene	ND<5.0	U	5.0	0.0680	ug/l	1	PREM	E202511-20 '					
Location Identifier: WT-AC-03-105 Sample Identifier 2001924	02/19/2002 13:0			ce Eval		Wate	er		No. of the Control of				
Sample Identifier 2001924 Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	- Wate Dil.	Lab	Lab. Number	Reference	Upper Limit	Lower Limit		Result
Sample Identifier 2001924 Chemical Name PCB-1016 (Arochlor 1016)	Reported Concentration ND<0.40	Qualifiers U	R.L. 0.40	M.D.L. 0.120	Units		Lab. PREM	E202647-20	Reference	Upper Limit	Lower Limit		Result
Sample Identifier 2001924  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)	Reported Concentration ND<0.40 ND<0.40	Qualifiers U U	R.L. 0.40 0.40	M.D.L. 0.120 0.120	Units ug/l ug/l	Dil. 1 1	Lab. PREM PREM	E202647-20 E202647-20	Reference	Upper Limit	Lower Limit		Result
Sample Identifier 2001924  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)	Reported Concentration ND<0.40 ND<0.40 ND<0.40	Qualifiers U U U	R.L. 0.40 0.40 0.40	M.D.L. 0.120 0.120 0.120	Units ug/l ug/l ug/l		Lab. PREM PREM PREM	E202647-20 E202647-20 E202647-20	Reference	Upper Limit	Lower Limit		Result
Sample Identifier 2001924  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)  PCB-1242 (Arochlor 1242)	Reported Concentration ND<0.40 ND<0.40 ND<0.40 ND<0.40	Qualifiers U U U U	R.L. 0.40 0.40 0.40 0.40	M.D.L. 0.120 0.120 0.120 0.120	Units ug/l ug/l ug/l ug/l	Dil. 1 1 1 1	Lab. PREM PREM PREM PREM	E202647-20 E202647-20 E202647-20 E202647-20	Reference	Upper Limit	Lower Limit		Result
Sample Identifier 2001924  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)  PCB-1242 (Arochlor 1242)  PCB-1248 (Arochlor 1248)	Reported Concentration ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40	Qualifiers U U U	R.L. 0.40 0.40 0.40 0.40 0.40	M.D.L. 0.120 0.120 0.120 0.120 0.120	Units ug/l ug/l ug/l ug/l ug/l	Dil. 1 1 1 1 1 1	PREM PREM PREM PREM PREM	E202647-20 E202647-20 E202647-20 E202647-20 E202647-20					Result
Sample Identifier 2001924  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)  PCB-1242 (Arochlor 1242)  PCB-1248 (Arochlor 1248)  PCB-1254 (Arochlor 1254)	Reported Concentration ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 2.3	Qualifiers  U  U  U  U  U	R.L. 0.40 0.40 0.40 0.40 0.40 0.40	M.D.L. 0.120 0.120 0.120 0.120 0.120 0.120	Units  ug/l  ug/l  ug/l  ug/l  ug/l  ug/l	Dil. 1 1 1 1	PREM PREM PREM PREM PREM PREM	E202647-20 E202647-20 E202647-20 E202647-20 E202647-20 E202647-20	Reference	Upper Limit	Lower Limit	Pass	Result
Sample Identifier 2001924  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)  PCB-1242 (Arochlor 1242)  PCB-1248 (Arochlor 1248)	Reported Concentration ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40	Qualifiers U U U U	R.L. 0.40 0.40 0.40 0.40 0.40	M.D.L. 0.120 0.120 0.120 0.120 0.120	Units ug/l ug/l ug/l ug/l ug/l	Dil. 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM	E202647-20 E202647-20 E202647-20 E202647-20 E202647-20					Result
Sample Identifier 2001924  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)  PCB-1242 (Arochlor 1242)  PCB-1248 (Arochlor 1248)  PCB-1254 (Arochlor 1254)	Reported Concentration ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 2.3 ND<0.40 2.3 100<0.40	Qualifiers  U  U  U  U  U	R.L. 0.40 0.40 0.40 0.40 0.40 0.40	M.D.L. 0.120 0.120 0.120 0.120 0.120 0.120	Units ug/l ug/l ug/l ug/l ug/l ug/l ug/l	Dil.  1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E202647-20 E202647-20 E202647-20 E202647-20 E202647-20 E202647-20					Result
Sample Identifier 2001924  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)  PCB-1242 (Arochlor 1242)  PCB-1248 (Arochlor 1248)  PCB-1254 (Arochlor 1254)  PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-03-106	Reported Concentration ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 2.3 ND<0.40	Qualifiers  U  U  U  U  U	R.L. 0.40 0.40 0.40 0.40 0.40 0.40	M.D.L. 0.120 0.120 0.120 0.120 0.120 0.120 0.120	Units  ug/l ug/l ug/l ug/l ug/l ug/l ug/l	Dil.  1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E202647-20 E202647-20 E202647-20 E202647-20 E202647-20 E202647-20		2.82		Pass	Result
Chemical Name  PCB-1016 (Arochlor 1016) PCB-1221 (Arochlor 1221) PCB-1232 (Arochlor 1232) PCB-1242 (Arochlor 1242) PCB-1248 (Arochlor 1248) PCB-1254 (Arochlor 1254) PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-03-106 Sample Identifier 2001925	Reported Concentration ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 RD<0.40 RD<0.40 RD<0.40 RD<0.40 RD<0.40 Reported Reported	Qualifiers  U U U U U U P	R.L.  0.40 0.40 0.40 0.40 0.40 0.40 0.40	M.D.L. 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120	Units  ug/l ug/l ug/l ug/l ug/l ug/l ug/l	Dil.  1 1 1 1 1 1 1 1 1 1 Under the body of the body o	PREM PREM PREM PREM PREM PREM PREM PREM	E202647-20 E202647-20 E202647-20 E202647-20 E202647-20 E202647-20 E202647-20	2.14	2.82	1.10	Pass	
Chemical Name  PCB-1016 (Arochlor 1016) PCB-1221 (Arochlor 1221) PCB-1232 (Arochlor 1232) PCB-1242 (Arochlor 1242) PCB-1248 (Arochlor 1248) PCB-1254 (Arochlor 1254) PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-03-106 Sample Identifier 2001925  Chemical Name	Reported Concentration ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 2.3 ND<0.40  02/19/2002 13:0  Reported Concentration	Qualifiers  U U U U U U P	R.L.  0.40 0.40 0.40 0.40 0.40 0.40 0.40	M.D.L. 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120	Units  ug/l ug/l ug/l ug/l ug/l ug/l ug/l Units  mg/L	Dil.  1 1 1 1 1 1 1 1 1 1 Under the body of the body o	PREM PREM PREM PREM PREM PREM PREM PREM	E202647-20 E202647-20 E202647-20 E202647-20 E202647-20 E202647-20 E202647-20	2.14 Reference	2.82 Upper Limit	1.10  Lower Limit	Pass	
Chemical Name  PCB-1016 (Arochlor 1016) PCB-1221 (Arochlor 1221) PCB-1232 (Arochlor 1232) PCB-1242 (Arochlor 1242) PCB-1248 (Arochlor 1248) PCB-1254 (Arochlor 1254) PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-03-106 Sample Identifier 2001925  Chemical Name Arsenic	Reported Concentration ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 2.3 ND<0.40  02/19/2002 13:0  Reported Concentration 0.71	Qualifiers  U U U U U U P	R.L.  0.40 0.40 0.40 0.40 0.40 0.40 0.40	M.D.L. 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120	Units  ug/l ug/l ug/l ug/l ug/l ug/l ug/l Units  mg/L 0 mg/L	Dil.  1 1 1 1 1 1 1 1 1 1 Under the body of the body o	PREM PREM PREM PREM PREM PREM PREM PREM	E202647-20 E202647-20 E202647-20 E202647-20 E202647-20 E202647-20 Lab. Number	2.14 Reference 0.709	2.82 Upper Limit 0.812	Lower Limit	Pass	
Chemical Name  PCB-1016 (Arochlor 1016) PCB-1221 (Arochlor 1221) PCB-1232 (Arochlor 1232) PCB-1242 (Arochlor 1242) PCB-1248 (Arochlor 1248) PCB-1254 (Arochlor 1254) PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-03-106 Sample Identifier 2001925  Chemical Name  Arsenic Barium	Reported Concentration ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40	Qualifiers  U U U U U U P	R.L.  0.40 0.40 0.40 0.40 0.40 0.40 0.40	M.D.L. 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120	Units  ug/l ug/l ug/l ug/l ug/l ug/l ug/l Units  mg/L 0 mg/L 0 mg/L	Dil.  1 1 1 1 1 1 1 1 1 1 Under the body of the body o	PREM PREM PREM PREM PREM PREM PREM PREM	E202647-20 E202647-20 E202647-20 E202647-20 E202647-20 E202647-20 E202647-20	2.14  Reference 0.709 0.662	2.82 Upper Limit 0.812 0.733	1.10 Lower Limit 0.606 0.591	Pass Pass Pass	
Chemical Name  PCB-1016 (Arochlor 1016) PCB-1221 (Arochlor 1221) PCB-1232 (Arochlor 1232) PCB-1242 (Arochlor 1242) PCB-1248 (Arochlor 1248) PCB-1254 (Arochlor 1254) PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-03-106 Sample Identifier 2001925  Chemical Name  Arsenic Barium Cadmium	Reported Concentration ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 2.3 ND<0.40  Concentration 0.71 0.68 0.20	Qualifiers  U U U U U U P	R.L.  0.40 0.40 0.40 0.40 0.40 0.40 0.40	M.D.L. 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.00068	Units  ug/l ug/l ug/l ug/l ug/l ug/l ug/l Units  mg/L 0 mg/L 0 mg/L 0 mg/L	Dil.  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E202647-20 E202647-20 E202647-20 E202647-20 E202647-20 E202647-20 E202647-20 Lab. Number E202647-21 E202647-21	Reference 0.709 0.662 0.209	2.82 Upper Limit 0.812 0.733 0.233	Lower Limit 0.606 0.591 0.185	Pass Pass Pass Pass Pass	



												_		
Page 60											Loureir	o Enginee	ring As	sociate
Lead	0.19			0.0040	0.00175	mg/L	1	PREM	E202647-21	0.198	0.223	0.173	Pass	
Mercury	0.0048			0.0002	2(0.00002	2 mg/L	1	PREM	E202647-21	0.004690	0.00586	0.00352	Pass	
Nickel	0.79			0.010	0.00108	mg/L	1	PREM	E202647-21	0.808	0.894	0.722	Pass	
Selenium	0.59			0.010	0.00460	mg/L	i	PREM	E202647-21	0.597	0.685	0.509	Pass	
Silver	0.18				0.00627		1	PREM	E202647-21	0.185	0.207	0.163	Pass	
Zinc	0.94			0.010	0.00198	mg/L	1	PREM	E202647-21	0.971	1.090	0.850	Pass	
Location Identifier: WT-AC												<u> </u>		
Sample Identifier 200	1926 02/19/2002	13:06	9 Per	forman	ce Evalı	uation -	· Wat	er						
Chemical Name	Reporte Concent		Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Lin	nit	Result
Cyanide	0.94			0.050		mg/L	5	PREM	E202647-22	1.03	1.31	0.716	Pass	* * * * * * * * * * * * * * * * * * * *
Location Identifier: WT-AC														
Sample Identifier 200	1927 02/19/2002	13:09	Per	orman	ce Evalı	uation -	- Wate	er						
Chemical Name	Reported Concent		Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number `	Reference	Upper Limit	Lower Lim	it	Result
1,2,4-Trichlorobenzene	16			5.5	0.330	ug/l	1	PREM	E202647-23	24.1	27.8	10.9	Pass	
1,2-Dichlorobenzene	60			5.5	0.400	ug/l	1		E202647-23	92.4	97.0	32.3	Pass	
•	60 ND<5.5		U				1	PREM		92.4				
1,3-Dichlorobenzene			U U	5.5	0.400	ug/l	-	PREM PREM	E202647-23	92.4				
1,3-Dichlorobenzene 1,4-Dichlorobenzene	ND<5.5			5.5 5.5	0.400 0.310	ug/l ug/l	-	PREM PREM PREM	E202647-23 E202647-23	<b>92.4</b> 75.6				
1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol	ND<5.5 ND<5.5			5.5 5.5 5.5	0.400 0.310 0.300	ug/l ug/l ug/l	-	PREM PREM PREM	E202647-23 E202647-23 E202647-23		97.0	32.3	Pass	
1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol	ND<5.5 ND<5.5 56			5.5 5.5 5.5 5.5	0.400 0.310 0.300 0.550	ug/l ug/l ug/l ug/l	-	PREM PREM PREM PREM PREM	E202647-23 E202647-23 E202647-23	75.6	97.0 85.0	32.3 42.2	Pass Pass	
1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol	ND<5.5 ND<5.5 56 39			5.5 5.5 5.5 5.5 5.5	0.400 0.310 0.300 0.550 0.420	ug/l ug/l ug/l ug/l ug/l	1 1 1	PREM PREM PREM PREM PREM PREM	E202647-23 E202647-23 E202647-23 E202647-23	75.6 53.5	97.0 85.0 61.5	32.3 42.2 27.2	Pass Pass Pass	
1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol	ND<5.5 ND<5.5 56 39 87			5.5 5.5 5.5 5.5 5.5 5.5	0.400 0.310 0.300 0.550 0.420 0.380	ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1	PREM PREM PREM PREM PREM PREM PREM	E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23	75.6 53.5 118	97.0 85.0 61.5 126	32.3 42.2 27.2 59.1	Pass Pass Pass Pass	
1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dinitrophenol	ND<5.5 ND<5.5 56 39 87 35 100 80		U	5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5	0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700 0.600	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23	75.6 53.5 118 51.3	97.0 85.0 61.5 126 58.6	32.3 42.2 27.2 59.1 18.8	Pass Pass Pass Pass Pass	
1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dinitrophenol 2,4-Dinitrotoluene	ND<5.5 ND<5.5 56 39 87 35			5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5	0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23	75.6 53.5 118 51.3 138	97.0 85.0 61.5 126 58.6 148	32.3 42.2 27.2 59.1 18.8 24.1	Pass Pass Pass Pass Pass Pass Pass	
1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene	ND<5.5 ND<5.5 56 39 87 35 100 80		U	5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5	0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700 0.600	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23	75.6 53.5 118 51.3 138	97.0 85.0 61.5 126 58.6 148	32.3 42.2 27.2 59.1 18.8 24.1	Pass Pass Pass Pass Pass Pass Pass	
1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Chloronaphthalene	ND<5.5 ND<5.5 56 39 87 35 100 80 ND<5.5		U	5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5	0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700 0.600 0.530	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23	75.6 53.5 118 51.3 138 105	97.0 85.0 61.5 126 58.6 148 124	32.3 42.2 27.2 59.1 18.8 24.1 59.2	Pass Pass Pass Pass Pass Pass	
1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Chloronaphthalene 2-Chlorophenol	ND<5.5 ND<5.5 56 39 87 35 100 80 ND<5.5		U	5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5	0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700 0.600 0.530 0.510	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23	75.6 53.5 118 51.3 138 105	97.0 85.0 61.5 126 58.6 148 124	32.3 42.2 27.2 59.1 18.8 24.1 59.2 9.85	Pass Pass Pass Pass Pass Pass	
1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Chloronaphthalene 2-Chlorophenol 2-Methylnaphthalene	ND<5.5 ND<5.5 56 39 87 35 100 80 ND<5.5		U U	5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5	0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700 0.600 0.530 0.510 0.400	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23	75.6 53.5 118 51.3 138 105	97.0 85.0 61.5 126 58.6 148 124	32.3 42.2 27.2 59.1 18.8 24.1 59.2 9.85	Pass Pass Pass Pass Pass Pass	
1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dinitrophenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Chloronaphthalene 2-Chlorophenol 2-Methylnaphthalene 2-Methylphenol (o-Cresol)	ND<5.5 ND<5.5 56 39 87 35 100 80 ND<5.5		U U	5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5	0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700 0.530 0.510 0.400 0.430	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23	75.6 53.5 118 51.3 138 105 18.5 62.0	97.0 85.0 61.5 126 58.6 148 124 22.9 68.7	32.3 42.2 27.2 59.1 18.8 24.1 59.2 9.85 29.1	Pass Pass Pass Pass Pass Pass Pass	
1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dinitrophenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Chloronaphthalene 2-Chlorophenol 2-Methylnaphthalene 2-Methylphenol (o-Cresol) 2-Nitroaniline	ND<5.5 ND<5.5 56 39 87 35 100 80 ND<5.5 13 42 ND<5.5		U U	5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5	0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700 0.530 0.510 0.400 0.430 0.420	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23	75.6 53.5 118 51.3 138 105 18.5 62.0	97.0 85.0 61.5 126 58.6 148 124 22.9 68.7	32.3 42.2 27.2 59.1 18.8 24.1 59.2 9.85 29.1	Pass Pass Pass Pass Pass Pass Pass	
1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Chloronaphthalene 2-Chlorophenol 2-Methylnaphthalene 2-Methylphenol (o-Cresol) 2-Nitroaniline 2-Nitrophenol	ND<5.5 ND<5.5 56 39 87 35 100 80 ND<5.5 13 42 ND<5.5		U U	5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5	0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700 0.530 0.510 0.400 0.430 0.420 0.550	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23	75.6 53.5 118 51.3 138 105 18.5 62.0	97.0 85.0 61.5 126 58.6 148 124 22.9 68.7 33.0	32.3 42.2 27.2 59.1 18.8 24.1 59.2 9.85 29.1	Pass Pass Pass Pass Pass Pass Pass Pass	
I,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Chloronaphthalene 2-Chlorophenol 2-Methylnaphthalene 2-Methylphenol (o-Cresol) 2-Nitroaniline 2-Nitrophenol 3,3'-Dichlorobenzidine	ND<5.5 ND<5.5 56 39 87 35 100 80 ND<5.5 13 42 ND<5.5 18 ND<11		บ บ บ	5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5	0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700 0.530 0.510 0.400 0.430 0.420 0.550 0.420	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23	75.6 53.5 118 51.3 138 105 18.5 62.0	97.0 85.0 61.5 126 58.6 148 124 22.9 68.7 33.0	32.3 42.2 27.2 59.1 18.8 24.1 59.2 9.85 29.1	Pass Pass Pass Pass Pass Pass Pass Pass	
I,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Chloronaphthalene 2-Chlorophenol 2-Methylnaphthalene 2-Methylphenol (o-Cresol) 2-Nitroaniline 2-Nitrophenol 3,3'-Dichlorobenzidine 3-Nitroaniline	ND<5.5 ND<5.5 56 39 87 35 100 80 ND<5.5 13 42 ND<5.5 18 ND<11 11		U U U U	5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5	0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700 0.530 0.510 0.400 0.430 0.420 0.550 0.420 0.730	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23 E202647-23	75.6 53.5 118 51.3 138 105 18.5 62.0	97.0 85.0 61.5 126 58.6 148 124 22.9 68.7 33.0	32.3 42.2 27.2 59.1 18.8 24.1 59.2 9.85 29.1	Pass Pass Pass Pass Pass Pass Pass Pass	
1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dinitrophenol 2,4-Dinitrophenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Chlorophenol 2-Methylnaphthalene 2-Methylphenol (o-Cresol) 2-Nitroaniline 2-Nitrophenol 3,3'-Dichlorobenzidine 3-Nitroaniline 4,6-Dinitro-2-Methylphenol 4-Bromophenyl Phenyl ether	ND<5.5 ND<5.5 56 39 87 35 100 80 ND<5.5 13 42 ND<5.5 18 ND<1.1		U U U U	5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5	0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700 0.530 0.510 0.400 0.430 0.420 0.550 0.420 0.730 0.440	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E202647-23 E202647-23	75.6 53.5 118 51.3 138 105 18.5 62.0 28.9	97.0 85.0 61.5 126 58.6 148 124 22.9 68.7 33.0 16.3	32.3 42.2 27.2 59.1 18.8 24.1 59.2 9.85 29.1 12.2 7.67	Pass Pass Pass Pass Pass Pass Pass Pass	



Page 61									Lou	reiro Engine	eering Associates, Inc.
4-Chloroaniline	ND<11	U	11	0.410	ug/l	1	PREM E202647-23			· ·	-
4-Chlorophenyl Phenyl ether	66		5.5	0.540	ug/l	1	PREM E202647-23	86.9	97.6	46.5	Pass
4-Nitroaniline	ND<11	U	11	0.480	ug/i	1	PREM E202647-23				
4-Nitrophenol	20		5.5	0.290	ug/l	1	PREM E202647-23	64.6	73.9	0	Pass
Acenaphthene	ND<5.5	U	5.5	0.450	ug/l	1	PREM E202647-23				
Acenaphthylene	12		5.5	0.470	ug/l	l	PREM E202647-23	18.3	21.3	9.34	Pass
Anthracene	14		5.5	0.560	ug/l	1	PREM E202647-23	20.6	23.3	11.2	Pass
Benzo(a)anthracene	18		5.5	0.420	ug/l	1	PREM E202647-23	25.0	26.2	17.2	Pass
Benzo(a)pyrene	ND<5.5	U	5.5	0.350	ug/l	1	PREM E202647-23				
Benzo(b)fluoranthene	10		5.5	0.400	ug/l	1	PREM E202647-23	15.1	17.9	8.61	Pass
Benzo(g,h,i)perylene	ND<5.5	U	5.5	0.420	ug/l	1	PREM E202647-23				
Benzo(k)fluoranthene	ND<5.5	U	5.5	0.360	ug/l	1	PREM E202647-23				
Benzyl Butyl Phthalate	79		5.5	0.460	ug/l	1	PREM E202647-23	111	123	45.1	Pass
Carbazole	ND<5.5	U	5.5	0.400	ug/l	1	PREM E202647-23				
Chrysene	19		5.5	0.440	ug/l	1	PREM E202647-23	25.3	28.8	16.0	Pass
Cresol,m- & p-	ND<5.5	U	5.5	0.740	ug/l	1	PREM E202647-23				
Dibenz(a,h)anthracene	ND<5.5	U	5.5	0.370	ug/l	1	PREM E202647-23				
Dibenzofuran	45		11	0.480	ug/l	1	PREM E202647-23	64.9	70.1	34.9	Pass
Diethyl Phthalate	100		5.5	0.660	ug/l	1	PREM E202647-23	142	169	51.5	Pass
Dimethyl Phthalate	10		5.5	0.600	ug/l	l	PREM E202647-23	14.5	17.1	5.54	Pass
Fluoranthene	14		5.5	0.480	ug/l	1	PREM E202647-23	19.8	22.7	13.6	Pass
Fluorene	28		5.5	0.540	ug/l	1	PREM E202647-23	39.4	45.6	22.5	Pass
Hexachlorobenzene	ND<5.5	U	5.5	0.550	ug/l	l	PREM E202647-23				
Hexachlorobutadiene	ND<5.5	U	5.5	0.320	ug/l	I	PREM E202647-23				
Hexachlorocyclopentadiene	ND<5.5	U	5.5	0.250	ug/l	1	PREM E202647-23				
Hexachloroethane	ND<5.5	U	5.5	0.270	ug/l	1	PREM E202647-23				
Indeno(1,2,3-c,d)pyrene	11		5.5	0.400	ug/l	1	PREM E202647-23	20.0	21.0	9.27	Pass
Isophorone	42		5.5	0.440	ug/l	I	PREM E202647-23	58.1	67.3	31.0	Pass
Naphthalene	94		5.5	0.390	ug/l	1	PREM E202647-23	139	156	58.2	Pass
Nitrobenzene	65		5.5	0.380	ug/l	l	PREM E202647-23	98.0	112	48.1	Pass
Pentachlorophenol	52		5.5	0.380	ug/l	1	PREM E202647-23	78.0	92.9	33.3	Pass
Phenanthrene	17		5.5	0.560	ug/l	1	PREM E202647-23	24.4	27.3	14.5	Pass
Phenol	40		5.5	0.360	ug/l	1	PREM E202647-23	134	145	29.7	Pass
Pyrene	22		5.5	0.390	ug/l	I	PREM E202647-23	30.2	39.3	15.6	Pass
bis(2-Chloroethoxy) Methane	60		5.5	0.460	ug/l	I	PREM E202647-23	118	124	62.2	FAIL
bis(2-Chloroethyl) ether (2-Chloroethyl	ND<5.5	U	5.5	0.350	ug/l	1	PREM E202647-23				
bis(2-Chloroisopropyl) ether	ND<11	U	11	0.310	ug/l	1	PREM E202647-23				
bis(2-Ethylhexyl) Phthalate	15		5.5	1.77	ug/I	i	PREM E202647-23	20.9	26.6	14.1	Pass
di-n-Butyl Phthalate	ND<5.5	U	5.5	1.14	ug/l	1	PREM E202647-23				
di-n-Octylphthalate	44		5.5	0.500	ug/l	i	PREM E202647-23	61.1	77.2	24.7	Pass

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Page 62										Loureir	o Engineeri	ng Associates, Ir
n-Nitrosodi-n-Propylamine n-Nitrosodiphenylamine	ND<5.5 27	U	5.5 5.5	0.580 0.640	ug/l ug/l	l l		E202647-23 E202647-23	49.7	60.1	21.0	Pass
Location Identifier: WT-AC-03-109 Sample Identifier 2001928	02/19/2002 13:1	2 Per	forman	ce Eval	uation	- Wate	er					
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	t Result
Total Petroleum Hydrocarbons EPA 418.1	100		2.4	0.900	mg/L	6	PREM	E202647-24	88.4	110	53.0	Pass
Location Identifier: WT-AC-03-110 Sample Identifier 2001929	02/19/2002 13:1	5 Per	forman	ce Eval	uation	- Wate	er					
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	t Result
1,1,1-Trichloroethane	36		5.0	0.184	ug/l	1	PREM	E202647-25	35.6	43.0	27.1	Pass
1,1,2,2-Tetrachloroethane	86		5.0	0.243	ug/l	1	PREM		89.0	112	64.2	Pass
1,1,2-Trichloroethane	ND<5.0	U	5.0	0.175	ug/l	1		E202647-25 .			·2	
1,1-Dichloroethane	ND<5.0	U	5.0	0.228	ug/l	1		E202647-25				
1,1-Dichloroethene	ND<5.0	Ü	5.0	0.274	ug/l	ī						
1,2-Dichloroethane	44	_	5.0	0.288	ug/l	1		E202647-25	44.7	54.8	35.7	Pass
1,2-Dichloropropane	ND<5.0	U	5.0	0.234	ug/l	1		E202647-25		·	50.,	. 400
2-Hexanone	ND<10	U	10	1.88	ug/l	1		E202647-25				
Acetone	ND<20	U	20	2.65	ug/l	Ī		E202647-25				
Benzene	55		5.0	0.184	ug/l	1		E202647-25	50	59.6	40.8	Pass
Bromodichloromethane	28		5.0	0.172	ug/l	1		E202647-25	27.3	32.9	21.9	Pass
Bromoform	26		5.0	0.127	ug/l	1	PREM	E202647-25	25.6	32.0	19.2	Pass
Bromomethane	ND<5.0	U	5.0	0.167	ug/l	1		E202647-25				
Carbon Disulfide	ND<5.0	U	5.0	0.498	ug/l	i	PREM	E202647-25				
Carbon Tetrachloride	45		5.0	0.228	ug/l	1	PREM	E202647-25	40.7	52.1	30.6	Pass
Chlorobenzene	58		5.0	0.157	ug/l	1	PREM	E202647-25	54.7	64.5	43.7	Pass
Chloroethane	ND<5.0	U	5.0	0.525	ug/l	1	PREM	E202647-25				
Chloroform	72		5.0	0.226	ug/l	ī	PREM	E202647-25	72.1	85.2	56.9	Pass
Chloromethane	ND<5.0	U	5.0	0.148	ug/l	l	PREM	E202647-25				
Dibromochloromethane	23		5.0	0.156	ug/l	1	PREM	E202647-25	22.6	27.4	17.4	Pass
Ethylbenzene	61		5.0	0.176	ug/l	1		E202647-25	58.1	69.8	44.9	Pass
Methyl Ethyl ketone (2-Butanone)	ND<10	U	10	1.94	ug/l	1						
Methyl Isobutyl ketone (4-Methyl-2-Penta	72	-	10	1.89	ug/l	ı			80.9	107	49.8	Pass
Methylene Chloride	62		5.0	0.789	ug/l	1		E202647-25	58.6	73.3	44.3	Pass
Styrene	ND<5.0	U	5.0	0.170	ug/l	1		E202647-25	*			
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Page 63										Loureir	o Engineer	ina Aes	sociates, Inc.
Toluene	56		5.0	0.188	ug/l	1	PREM	E202647-25	53.0	61.4	42.8	Pass	sociates, ir io.
Trichloroethylene (TCE)	42		5.0	0.220	ug/l	i		E202647-25	36.6	43.5	27.7	Pass	
Vinyl Chloride	ND<5.0	U	5.0	0.111	ug/l	1	PREM	E202647-25	30.0	13.5	27.7	1 433	
cis-1,3-Dichloropropene	ND<5.0	U	5.0	0.139	ug/l	1		E202647-25					
m,p-Xylene (Sum of Isomers)	57	Ü	5.0	0.424	ug/l	i		E202647-25	54.2	67.5	37.8	Pass	
o-Xylene (1,2-Dimethylbenzene)	ND<5.0	U	5.0	0.171	ug/l	1	PREM	E202647-25	3 1.2	07.0	57.0	. 433	
trans-1,3-Dichloropropene	ND<5.0	Ü	5.0	0.0680	ug/l	1		E202647-25					
Location Identifier: WT-AC-03-111										···			
Sample Identifier 2001949	02/22/2002 12:3	0 Per	forman	ice Eval	uation <sub>.</sub>	Wate	er						
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limi	t	Result
PCB-1016 (Arochlor 1016)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E202826-6					
PCB-1221 (Arochlor 1221)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E202826-6					
PCB-1232 (Arochlor 1232)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E202826-6					
PCB-1242 (Arochlor 1242)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E202826-6					
PCB-1248 (Arochlor 1248)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E202826-6					
PCB-1254 (Arochlor 1254)	6.2		0.40	0.120	ug/l	1	PREM	E202826-6	8.65	11.4	4.43	Pass	
PCB-1260 (Arochlor 1260)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E202826-6					
Location Identifier: WT-AC-03-112 Sample Identifier 2001957	02/26/2002 13:1 Reported			ice Evali								<del></del>	
Chemical Name	Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limi	t	Result
PCB-1016 (Arochlor 1016)													
	ND<0.40	U	0.40	0.120	ug/l	1		E202947-8					
PCB-1221 (Arochlor 1221)	ND<0.40	U	0.40	0.120	ug/l	1 1	PREM	E202947-8	<del></del>				***************************************
PCB-1232 (Arochlor 1232)	ND<0.40 ND<0.40	U U	0.40 0.40	0.120 0.120	ug/l ug/l	1 1 1	PREM PREM	E202947-8 E202947-8			· · · · · · · · · · · · · · · · · · ·	A	
PCB-1232 (Arochlor 1232) PCB-1242 (Arochlor 1242)	ND<0.40 ND<0.40 ND<0.40	U U U	0.40 0.40 0.40	0.120 0.120 0.120	ug/l ug/l ug/l	1 1 1	PREM PREM PREM	E202947-8 E202947-8 E202947-8					
PCB-1232 (Arochlor 1232) PCB-1242 (Arochlor 1242) PCB-1248 (Arochlor 1248)	ND<0.40 ND<0.40 ND<0.40 ND<0.40	U U	0.40 0.40 0.40 0.40	0.120 0.120 0.120 0.120	ug/l ug/l ug/l ug/l	1 1 1 1 1	PREM PREM PREM PREM	E202947-8 E202947-8 E202947-8 E202947-8					
PCB-1232 (Arochlor 1232) PCB-1242 (Arochlor 1242) PCB-1248 (Arochlor 1248) PCB-1254 (Arochlor 1254)	ND<0.40 ND<0.40 ND<0.40 ND<0.40 5.2	U U U	0.40 0.40 0.40 0.40 0.40	0.120 0.120 0.120 0.120 0.120	ug/l ug/l ug/l ug/l ug/l	1 1 1	PREM PREM PREM PREM PREM	E202947-8 E202947-8 E202947-8 E202947-8 E202947-8	5.19	6.85	2.66	Pass	
PCB-1232 (Arochlor 1232) PCB-1242 (Arochlor 1242) PCB-1248 (Arochlor 1248)	ND<0.40 ND<0.40 ND<0.40 ND<0.40	U U U	0.40 0.40 0.40 0.40	0.120 0.120 0.120 0.120	ug/l ug/l ug/l ug/l	1 1 1	PREM PREM PREM PREM PREM	E202947-8 E202947-8 E202947-8 E202947-8	5.19	6.85	2.66		
PCB-1232 (Arochlor 1232) PCB-1242 (Arochlor 1242) PCB-1248 (Arochlor 1248) PCB-1254 (Arochlor 1254)	ND<0.40 ND<0.40 ND<0.40 ND<0.40 5.2	U U U U	0.40 0.40 0.40 0.40 0.40 0.40	0.120 0.120 0.120 0.120 0.120	ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1	PREM PREM PREM PREM PREM PREM	E202947-8 E202947-8 E202947-8 E202947-8 E202947-8	5.19	6.85	2.66		
PCB-1232 (Arochlor 1232) PCB-1242 (Arochlor 1242) PCB-1248 (Arochlor 1248) PCB-1254 (Arochlor 1254) PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-03-113	ND<0.40 ND<0.40 ND<0.40 ND<0.40 5.2 ND<0.40	U U U U	0.40 0.40 0.40 0.40 0.40 0.40	0.120 0.120 0.120 0.120 0.120 0.120	ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1	PREM PREM PREM PREM PREM PREM	E202947-8 E202947-8 E202947-8 E202947-8 E202947-8	5.19 Reference	6.85		Pass	Result
PCB-1232 (Arochlor 1232) PCB-1242 (Arochlor 1242) PCB-1248 (Arochlor 1248) PCB-1254 (Arochlor 1254) PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-03-113 Sample Identifier 2001958	ND<0.40 ND<0.40 ND<0.40 ND<0.40 5.2 ND<0.40 02/26/2002 13:1 Reported	U U U U	0.40 0.40 0.40 0.40 0.40 0.40	0.120 0.120 0.120 0.120 0.120 0.120 0.120 ce Evalu	ug/l ug/l ug/l ug/l ug/l ug/l	l l l l l l Wate	PREM PREM PREM PREM PREM PREM PREM	E202947-8 E202947-8 E202947-8 E202947-8 E202947-8 E202947-8				Pass	Result
PCB-1232 (Arochlor 1232) PCB-1242 (Arochlor 1242) PCB-1248 (Arochlor 1248) PCB-1254 (Arochlor 1254) PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-03-113 Sample Identifier 2001958  Chemical Name	ND<0.40 ND<0.40 ND<0.40 ND<0.40 5.2 ND<0.40 02/26/2002 13:1 Reported Concentration	U U U U	0.40 0.40 0.40 0.40 0.40 0.40 Forman R.L.	0.120 0.120 0.120 0.120 0.120 0.120 0.120 ce Evalu	ug/l ug/l ug/l ug/l ug/l ug/l ug/l Units mg/L	1 1 1 1 1 1 1 1 Dil.	PREM PREM PREM PREM PREM PREM PREM	E202947-8 E202947-8 E202947-8 E202947-8 E202947-8 E202947-8	Reference	Upper Limit	Lower Limit	Pass	Result
PCB-1232 (Arochlor 1232) PCB-1242 (Arochlor 1242) PCB-1248 (Arochlor 1248) PCB-1254 (Arochlor 1254) PCB-1260 (Arochlor 1260)  Location Identifier: WT-AC-03-113 Sample Identifier 2001958  Chemical Name  Arsenic	ND<0.40 ND<0.40 ND<0.40 ND<0.40 5.2 ND<0.40 02/26/2002 13:1 Reported Concentration 0.32	U U U U	0.40 0.40 0.40 0.40 0.40 0.40 Forman R.L. 0.010 0.010	0.120 0.120 0.120 0.120 0.120 0.120 ce Evalu M.D.L.	ug/l ug/l ug/l ug/l ug/l ug/l ug/l Units mg/L 0 mg/L	1 1 1 1 1 1 1 1 Dil.	PREM PREM PREM PREM PREM PREM PREM PREM	E202947-8 E202947-8 E202947-8 E202947-8 E202947-8 E202947-8 Lab. Number E202947-9	Reference	Upper Limit	Lower Limit	Pass Pass	Result



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Chromium, Total	0.18		0.010	0.00074	0 mg/L	1	PREM	E202947-9	.178	.197	.158	Pass
Copper	0.28		0.010	0.00087	0 mg/L	1	PREM	E202947-9	.275	.306	.244	Pass
Lead	0.27		0.004	0 0.00175	mg/L	I	PREM	E202947-9	.271	.305	.238	Pass
Mercury	0.016		0.000	2(0.00002	2 mg/L	1	PREM	E202947-9				
Nickel	0.67		0.010	0.00108	mg/L	1	PREM	E202947-9	.661	.731	.590	Pass
Selenium	0.54		0.010	0.00460	mg/L	1	PREM	E202947-9	.524	.601	.447	Pass
Silver	0.24		0.002	0 0.00627	mg/L	1	PREM	E202947-9	.238	.267	.210	Pass
Zinc	0.88		0.010	0.00198	mg/L	1	PREM	E202947-9	.888	1.000	.778	Pass
Location Identifier: WT-AC-03-114								****				
Sample Identifier 2001959	02/26/2002 13:2	20 Per	forman	ce Evalu	ation	- Wat	er					
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	Result
Cyanide	0.30		0.010		mg/L	1	PREM	E202947-10	0.312	0.396	0.216	Pass
Sample Identifier 2001960  Chemical Name	02/26/2002 13:2 Reported	23 Per Oualifiers	forman R.L.	ce Evalu		- Wate Dil.	er Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	Result
	Concentration											
1,2,4-Trichlorobenzene	90		5.4	0.330	ug/l	1			113	117		Pass
1,2-Dichlorobenzene	93 ND -6-4	U	5.4	0.400	ug/l	1		E202947-11	121	138	28.3	Pass
1,3-Dichlorobenzene	ND<5.4 ND<5.4	U	5.4 5.4	0.310 0.300	ug/l	1		E202947-11 E202947-11				
1,4-Dichlorobenzene 2,4,5-Trichlorophenol	54	Ü	5.4	0.550	ug/l	1		E202947-11 E202947-11	64.8	73.0	25.5	ass
2,4,6-Trichlorophenol	110		5.4 5.4	0.330	ug/l	1		E202947-11	128	148		ass Pass
2,4-Dichlorophenol	46		5.4 5.4	0.420	ug/l	1		E202947-11 E202947-11	64.4	69.9		ass Pass
2,4-Direntorphenol	14		5.4 5.4	0.580	ug/l	1		E202947-11 E202947-11	20.5	24.2		ass Pass
2,4-Dinitrophenol	110		5.4 5.4	0.0700	ug/l ug/l	1	PREM	E202947-11 E202947-11	161	170		ass ass
2,4-Dinitrotoluene	74		5.4 5.4	0.600	ug/l	1	PREM	E202947-11 E202947-11	88.9	104		ass
2.6-Dinitrotoluene	48		5.4 5.4	0.530	ug/l ug/l	1		E202947-11 E202947-11	56.3	63.7		ass Pass
2-Chloronaphthalene	25		5.4	0.510	ug/l ug/l	1		E202947-11	30.2	32.2		ass Pass
2-Chlorophenol	13		5.4	0.400	ug/i ug/i	1		E202947-11 E202947-11	15.5	18.6		ass
2-Methylnaphthalene	ND<5.4	U	5.4	0.430	ug/l ug/l	1	PREM	E202947-11 E202947-11	10.0	10.0	v i	<b></b> 3
2-Methyliphenol (o-Cresol)	130	J	5.4	0.430	ug/l	1		E202947-11	171	195	42.9 I	ass
!-Nitroaniline	ND<11	U	11	0.550	ug/i ug/i	1		E202947-11	. / 1	173	74.7	433
!-Nitrophenol	22	J	5.4	0.330	ug/l ug/l	1		E202947-11 E202947-11	28.0	31.4	13.7 F	ass
3,3'-Dichlorobenzidine	ND<5.4	U	5.4	0.420	ug/l ug/l	1		E202947-11 E202947-11	20.0	J1.4	1.5.7 f	a55
3-Nitroaniline	ND<11	Ü	11	0.730	ug/i ug/i	1		E202947-11			•	
4,6-Dinitro-2-Methylphenol	140	J	5.4	0.300	ug/l	1		E202947-11	166	206	54.6 F	ass ass
+,0-Dimitio-2-Methylphenoi	140		J.4	0.300	ug/i	1	LKEIVI	EZUZ94/-11	100	200	34.0 I	ass

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4-Bromophenyl Phenyl ether	120		5.4	0.530	ug/l	1	PREM	E202947-11	142	161	80.3	Pass	JU, 11 10.
4-Chloro-3-Methylphenol	130		5.4	0.440	ug/l	1		E202947-11	144	164	78.0	Pass	
4-Chloroaniline	ND<11	U	11	0.410	ug/l	1		E202947-11			70.0	1 423	
4-Chlorophenyl Phenyl ether	25		5.4	0.540	ug/l	1		E202947-11	29.0	33.1	15.1	Pass	
4-Nitroaniline	ND<11	U	11	0.480	ug/l	1		E202947-11		33.1	• • • • • • • • • • • • • • • • • • • •	1 423	
4-Nitrophenol	31		5.4	0.290	ug/l	1		E202947-11	77.6	87.3	0	Pass	
Acenaphthene	17		5.4	0.450	ug/l	i		E202947-11	20.4	23.3	9.26	Pass	
Acenaphthylene	43		5.4	0.470	ug/l	1		E202947-11	54.8	59.9	29.0	Pass	
Anthracene	46		5.4	0.560	ug/l	1		E202947-11	57.2	65.5	31.7	Pass	
Benzo(a)anthracene	26		5.4	0.420	ug/l	l		E202947-11	31.2	32.9	13.1	Pass	
Benzo(a)pyrene	ND<5.4	U	5.4	0.350	ug/l	1		E202947-11		52.7		. 433	
Benzo(b)fluoranthene	17		5.4	0.400	ug/i	1		E202947-11	22.0	25.5	14.1	Pass	
Benzo(g,h,i)perylene	ND<5.4	U	5.4	0.420	ug/l	1		E202947-11	/-	20.5	••	. 435	
Benzo(k)fluoranthene	9.6		5.4	0.360	ug/l	l		E202947-11	10.5	16.8	0	Pass	
Benzyl Butyl Phthalate	50		5.4	0.460	ug/l	1		E202947-11	56.6	75.5	15.2	Pass	
Carbazole	ND<5.4	U	5.4	0.400	ug/l	1	PREM	E202947-11				- 1.55	
Chrysene	34		5.4	0.440	ug/l	1	PREM	E202947-11 '	40.4	45.4	23.6	Pass	
Cresol,m- & p-	ND<5.4	U	5.4	0.740	ug/l	1	PREM	E202947-11					
Dibenz(a,h)anthracene	9.8		5.4	0.370	ug/l	1	PREM	E202947-11	11.9	13.3	0	Pass	
Dibenzofuran	71		11	0.480	ug/l	1	PREM	E202947-11	88.1	112	28.0	Pass	
Diethyl Phthalate	23		5.4	0.660	ug/l	1	PREM	E202947-11	26.0	34.6	0	Pass	
Dimethyl Phthalate	130		5.4	0.600	ug/l	1	PREM	E202947-11	160	197	0	Pass	
Fluoranthene	12		5.4	0.480	ug/l	1	PREM	E202947-11	13.8	15.8	0	Pass	
Fluorene	76		5.4	0.540	ug/l	1	PREM	E202947-11	90.3	103	50.9	Pass	
Hexachlorobenzene	25		5.4	0.550	ug/l	1	PREM	E202947-11	29.3	33.9	17.0	Pass	
Hexachlorobutadiene	ND<5.4	U	5.4	0.320	ug/l	1	PREM	E202947-11					
Hexachlorocyclopentadiene	81		5.4	0.250	ug/l	1	PREM	E202947-11	117	122	13.8	Pass	
Hexachloroethane	ND<5.4	U	5.4	0.270	ug/l	1	PREM	E202947-11					
Indeno(1,2,3-c,d)pyrene	ND<5.4	U	5.4	0.400	ug/l	1	PREM	E202947-11					
Isophorone	ND<5.4	U	5.4	0.440	ug/l	1	PREM	E202947-11					
Naphthalene	51		5.4	0.390	ug/l	1	PREM	E202947-11	64	72.6	29	Pass	
Nitrobenzene	ND<5.4	U	5.4	0.380	ug/l	1	PREM	E202947-11					
Pentachlorophenol	88		5.4	0.380	ug/l	l	PREM	E202947-11	111	133	49.6	Pass	
Phenanthrene	ND<5.4	U	5.4	0.560	ug/l	1	PREM	E202947-11					
Phenol	43		5.4	0.360	ug/l	1	PREM	E202947-11	117	127	0	Pass	
Pyrene	130		5.4	0.390	ug/l	1	PREM	E202947-11	142	167	71.2	Pass	
bis(2-Chloroethoxy) Methane	ND<5.4	U	5.4	0.460	ug/l	1	PREM	E202947-11					
bis(2-Chloroethyl) ether (2-Chloroethyl	ND<5.4	U	5.4	0.350	ug/l	1	PREM	E202947-11			•		
bis(2-Chloroisopropyl) ether	ND<11	U	11	0.310	ug/l	1	PREM 1	E202947-11					
bis(2-Ethylhexyl) Phthalate	130		5.4	1.77	ug/l	1	PREM 1	E202947-11	129	161	48.1	Pass	



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di-n-Butyl Phthalate	110		5.4	1.14	ug/l	ı	PREM	E202947-11	143	169	46.8	Pass	,
di-n-Octylphthalate	63		5.4	0.500	ug/l	l	PREM	E202947-11	65.6	82.6	26.2	Pass	
n-Nitrosodi-n-Propylamine	ND<5.4	U	5.4	0.580	ug/l	1	PREM	E202947-11					
n-Nitrosodiphenylamine	ND<5.4	U	5.4	0.640	ug/l	l	PREM	E202947-11					
Location Identifier: WT-AC-03-116	00/06/0000		c	-									
Sample Identifier 2001961	02/26/2002 13:2	Per Per	torman	ce Eval	uation ·	· Wat	er						
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Lim	it	Result
Total Petroleum Hydrocarbons EPA 418.1	100		2.4	0.900	mg/L	6	PREM	E202947-12	78.9	98.6	47.3	FAIL	
Location Identifier: WT-AC-03-117													
Sample Identifier 2001962	02/26/2002 13:2	28 Per	forman	ce Eval	uation -	Wat	er		· <u></u>				
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Lim	it	Result
1,1,1-Trichloroethane	72		5.0	0.184	ug/l	1	PREM	E202947-13	65.4	79.0	49.5	Pass	
1,1,2,2-Tetrachloroethane	30		5.0	0.243	ug/l	l	PREM	E202947-13	34.6	43.7	24.6	Pass	
1,1,2-Trichloroethane	65		5.0	0.175	ug/l	1	PREM	E202947-13	74.4	89.0	58.4	Pass	
1,1-Dichloroethane	ND<5.0	U	5.0	0.228	ug/l	1	PREM	E202947-13					
1,1-Dichloroethene	ND<5.0	U	5.0	0.274	ug/l	1	PREM	E202947-13					
1,2-Dichloroethane	28		5.0	0.288	ug/l	1	PREM	E202947-13	26.8	33.2	21.6	Pass	
1,2-Dichloropropane	110		5.0	0.234	ug/l	1	PREM	E202947-13	101	118	78.1	Pass	
2-Hexanone	ND<10	U	10	1.88	ug/l	1	PREM	E202947-13					
Acetone	ND<20	U	20	2.65	ug/l	1	PREM	E202947-13					
Benzene	9.5		5.0	0.184	ug/l	1	PREM	E202947-13	7.93	9.82	6.22	Pass	
Bromodichloromethane	22		5.0	0.172	ug/l	1	PREM	E202947-13	19.7	23.8	15.8	Pass	
Bromoform	38		5.0	0.127	ug/l	1	PREM	E202947-13	39.6	49.5	30.3	Pass	
Bromomethane	ND<5.0	U	5.0	0.167	ug/l	i	PREM	E202947-13					
Carbon Disulfide	ND<5.0	U	5.0	0.498	ug/l	1	PREM	E202947-13					
Carbon Tetrachloride	69		5.0	0.228	ug/l	1	PREM	E202947-13	55.3	70.7	41.5	Pass	
Chlorobenzene	26		5.0	0.157	ug/l	1	PREM	E202947-13	24.8	29.2	20.2	Pass	
Chloroethane	ND<5.0	U	5.0	0.525	ug/l	i	PREM	E202947-13					
Chloroform	42		5.0	0.226	ug/l	1	PREM	E202947-13	38.5	45.7	30.6	Pass	
Chloromethane	ND<5.0	U	5.0	0.148	ug/l	1	PREM	E202947-13					
Dibromochloromethane	15		5.0	0.156	ug/l	1		E202947-13	15.1	18.3	11.6	Pass	
Ethylbenzene	71		5.0	0.176	ug/l	1		E202947-13	70.2	84.4	54.2	Pass	
					-	-				* *			
•	ND<10	U	10	1.94	ug/l	1	PREM	EZUZ947-13					
Methyl Ethyl ketone (2-Butanone) Methyl Isobutyl ketone (4-Methyl-2-Penta	ND<10 57	U	10 10	1.94 1.89	ug/l ug/l	ı I		E202947-13 E202947-13	73.1	99.3	44.9	Pass	



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Styrene	ND<5.0	U	5.0	0.170	ug/l	1	PREM	E202947-13					
Tetrachloroethylene (PCE)	68		5.0	0.171	ug/l	l		E202947-13	70.4	82.7	53.8	Pass	
Toluene	31		5.0	0.188	ug/l	1	PREM	E202947-13	30.5	35.6	24.5	Pass	
Trichloroethylene (TCE)	44		5.0	0.220	ug/l	1	PREM	E202947-13	34.6	41.1	26.2	FAIL	
Vinyl Chloride	ND<5.0	U	5.0	0.111	ug/l	l	PREM	E202947-13					
cis-1,3-Dichloropropene	ND<5.0	Ü	5.0	0.139	ug/l	1	PREM	E202947-13					
m,p-Xylene (Sum of Isomers)	ND<5.0	U	5.0	0.424	ug/l	1		E202947-13					
o-Xylene (1,2-Dimethylbenzene)	37		5.0	0.171	ug/l	1		E202947-13	38.2	48.3	26.6	Pass	
trans-1,3-Dichloropropene	ND<5.0	U	5.0	0.0680	ug/l	1		E202947-13				1 3.00	
Location Identifier: WT-AC-03-118													
Sample Identifier 2002400	04/22/2002 12:5	0 Per	rformar	ice Eval	uation	- Wat	er						
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limi	t	Result
PCB-1016 (Arochlor 1016)	ND<0.41	U	0.41	0.120	ug/l	I	PREM	E204861-4					
PCB-1221 (Arochlor 1221)	ND<0.41	U	0.41	0.120	ug/l	1	PREM	E204861-4					
PCB-1232 (Arochlor 1232)	ND<0.41	U	0.41	0.120	ug/l	1	PREM	E204861-4					
PCB-1242 (Arochlor 1242)	ND<0.41	U	0.41	0.120	ug/l	i	PREM	E204861-4					
PCB-1248 (Arochlor 1248)	ND<0.41	υ	0.41	0.120	ug/l	1	PREM	E204861-4					
PCB-1254 (Arochlor 1254)	2.7		0.41	0.120	ug/l	l	PREM	E204861-4	3.05	4.15	1.49	Pass	
PCB-1260 (Arochlor 1260)	ND<0.41	U	0.41	0.120	ug/l	1	PREM	E204861-4					
Location Identifier: WT-AC-03-119											******		
Sample Identifier 2002414	05/22/2002 13:4	6 Per	formar	nce Eval	uation	- Wat	er						
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limi	t	Result
PCB-1016 (Arochlor 1016)	ND<0.40	U	0.40	0.120	ug/l		PREM	E205928-8	·				
PCB-1221 (Arochlor 1221)	ND<0.40	Ü	0.40	0.120	ug/l	1		E205928-8					
PCB-1232 (Arochlor 1232)	ND<0.40	U	0.40	0.120	ug/l	1		E205928-8					
PCB-1242 (Arochlor 1242)	ND<0.40	U	0.40	0.120	ug/l	1		E205928-8					
PCB-1248 (Arochlor 1248)	ND<0.40	U	0.40	0.120	ug/l	i		E205928-8					
PCB-1254 (Arochlor 1254)	5.1	V	0.40	0.120	ug/l	i		E205928-8	5.70	7.75	2.79	Pass	
PCB-1260 (Arochlor 1260)	ND<0.40	U	0.40	0.120	ug/l	1		E205928-8	3.70	7.75	4.17	1 433	
,			····										
Location Identifier: WT-AC-03-120													
Sample Identifier 2002415	05/22/2002 13:4	8 Per	forman	ice Evali	uation -	- Wate	er						
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	i	Result
		-			/1		DD EL	F306038 B	102	116	0000		
Arsenic	0.098		0.010	U	mg/L	1	PKEM	E205928-9	.103	.115	.0892	Pass	



Page   68	Barium Cadmium Chromium, Total Copper	*												
Cadmium	Cadmium Chromium, Total Copper	*									Loureire	o Engineeri	ng Associ	iates
Chromium, Total	Chromium, Total Copper	0.043		0.010	0.00068	0 mg/L	1	PREM	E205928-9	.155	.172	.138	Pass	
Copper   0.12	Copper	0.047		0.0020	0.00032	0 mg/l.	1	PREM	E205928-9	.0502	.0543	.0443	Pass	
Lead	• •	0.088		0.010	0.00074	0 mg/L	1	PREM	E205928-9	.0872	.101	.0775	Pass	
Mercury   0.0019   0.0002\(\text{0.00002}\)   0.0002\(\text{0.00002}\)   0.0002\(\text{0.00002}\)   0.0018   mg/L   1   PREM   E205928-9   0.0196   0.0245   0.0147	Lead	0.12		0.010	0.00087	0 mg/L	1	PREM	E205928-9	.118	.131	.107	Pass	
Nickel 0.24 0.010 0.00108 mg/L 1 PREM E205928-9 .237 .262 .212 Selenium 0.22 0.010 0.00460 mg/L 1 PREM E205928-9 .219 .259 .183 Silver 0.043 0.0020 0.00627 mg/L 1 PREM E205928-9 .0447 0520 .0380 Zinc 0.14 0.010 0.00198 mg/L 1 PREM E205928-9 .144 .172 .126  Location Identifier: WT-AC-03-121 Sample Identifier 2002416 05/22/2002 13:52 Performance Evaluation - Water  Chemical Name Reported Concentration 0.72 0.020 mg/L 2 PREM E205928-10 0.710 0.913 0.492  Location Identifier: WT-AC-03-122 Sample Identifier 2002417 05/22/2002 13:54 Performance Evaluation - Water  Chemical Name Reported Concentration 0.020 mg/L 2 PREM E205928-10 0.710 0.913 0.492  Location Identifier: WT-AC-03-122 Sample Identifier 2002417 05/22/2002 13:54 Performance Evaluation - Water  Chemical Name Reported Concentration 0.0300 mg/L 1 PREM E205928-10 0.710 0.913 0.492  Location Identifier: WT-AC-03-122 Sample Identifier 2002417 05/22/2002 13:54 Performance Evaluation - Water  Chemical Name Reported Concentration 0.0300 mg/L 1 PREM E205928-11 24.1 27.8 10.9		0.15		0.0040	0.00175	mg/L	1	PREM	E205928-9	.153	.173	.137	Pass	
Selenium   Selenium   Selenium   Selenium   Selenium   Silver	Mercury	0.0019		0.0002	(0.00002	2 mg/L	1	PREM	E205928-9	.00196	.00245	.00147	Pass	
Silver   2002416   0.043   0.0020 0.00627 mg/L   1 PREM   E205928-9   0.0447   0.0520   0.0380	Nickel	0.24		0.010	0.00108	mg/L	1	PREM	E205928-9	.237	.262	.212	Pass	
Zinc	Selenium	0.22		0.010	0.00460	mg/L	1	PREM	E205928-9	.219	.259	.183	Pass	
Cocation Identifier: WT-AC-03-121   Sample Identifier   2002416   05/22/2002   13:52   Performance Evaluation - Water	Silver	0.043		0.0020	0.00627	mg/L	1	PREM	E205928-9	.0447	.0520	.0380	Pass	
Sample Identifier 2002416 05/22/2002 13:52 Performance Evaluation - Water  Chemical Name Reported Concentration 0.72 0.020 mg/L 2 PREM E205928-10 0.710 0.913 0.492  Cocation Identifier: WT-AC-03-122 Sample Identifier 2002417 05/22/2002 13:54 Performance Evaluation - Water  Chemical Name Reference Upper Limit Lower Li	Zinc	0.14		0.010	0.00198	mg/L	1	PREM	E205928-9	.144	.172	.126	Pass	
Concentration   Qualifiers   R.L.   M.D.L.   Units   Dil.   Lab.   Lab.   Number   Reference   Upper Limit   Lower Limit		05/22/2002 13:5	2 Peri	formanc	e Evalu	ıation -	Wate	er						
Cyanide         0.72         0.020         mg/L         2         PREM         E205928-10         0.710         0.913         0.492           ocation Identifier: WT-AC-03-122 Sample Identifier         05/22/2002         13:54         Performance Evaluation - Water           Chemical Name         Reported Concentration Concentration         Qualifiers         R.L.         M.D.L.         Units         Dil.         Lab.         Number         Reference         Upper Limit         Lower Limit           .2,4-Trichlorobenzene         20         5.0         0.330         ug/l         1         PREM         E205928-11         24.1         27.8         10.9	Phemical Name		Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	t Res	sult
Ocation Identifier:         WT-AC-03-122 Sample Identifier         2002417         05/22/2002         13:54         Performance Evaluation - Water           Chemical Name         Reported Concentration Concentration         Qualifiers         R.L.         M.D.L.         Units         Dil.         Lab.         Lab.         Number         Reference         Upper Limit         Lower Limit           1,2,4-Trichlorobenzene         20         5.0         0.330         ug/l         1         PREM         E205928-11         24.1         27.8         10.9	Cyanide	and the second s		0.020		mg/L	2	PREM	E205928-10	0.710	0.913	0.492	Pass	
	The second secon	Danortad												
	Chemical Name	•	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	Res	sult
1,2-Dichioropenzene 64 5.0 0.400 ug/l 1 PREM E205928-11 92.4 97.0 32.3		Concentration	Qualifiers				Dil.						Res Pass	sult
	1,2,4-Trichlorobenzene	Concentration	Qualifiers	5.0		ug/l	Dil. 1	PREM						sult
	,2,4-Trichlorobenzene ,2-Dichlorobenzene	Concentration 20 64		5.0	0.330 0.400	ug/l ug/l	1 1	PREM PREM	E205928-11 E205928-11	24.1	27.8	10.9	Pass	sult
	,2,4-Trichlorobenzene ,2-Dichlorobenzene ,3-Dichlorobenzene	Concentration 20 64 ND<5.0	U	5.0 5.0 5.0	0.330 0.400 0.310	ug/l ug/l ug/l	1 1 1	PREM PREM PREM	E205928-11 E205928-11 E205928-11	24.1	27.8	10.9	Pass	sult
·	1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene	Concentration 20 64 ND<5.0 ND<5.0	U	5.0 5.0 5.0 5.0	0.330 0.400 0.310 0.300	ug/l ug/l ug/l ug/l	1 1 1	PREM PREM PREM PREM	E205928-11 E205928-11 E205928-11 E205928-11	24.1 92.4	27.8 97.0	10.9 32.3	Pass	sult
	1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,4,5-Trichlorophenol	Concentration 20 64 ND<5.0 ND<5.0 60	U	5.0 5.0 5.0 5.0 5.0	0.330 0.400 0.310 0.300 0.550	ug/l ug/l ug/l ug/l ug/l	1 1 1 1	PREM PREM PREM PREM PREM	E205928-11 E205928-11 E205928-11 E205928-11 E205928-11	24.1 92.4 75.6	27.8 97.0	10.9 32.3 42.2	Pass Pass	sult
·	,2,4-Trichlorobenzene ,2-Dichlorobenzene ,3-Dichlorobenzene ,4-Dichlorobenzene ,4,5-Trichlorophenol ,4,6-Trichlorophenol	Concentration 20 64 ND<5.0 ND<5.0 60 43	U	5.0 5.0 5.0 5.0 5.0 5.0	0.330 0.400 0.310 0.300 0.550 0.420	ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1	PREM PREM PREM PREM PREM PREM	E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11	24.1 92.4 75.6 53.5	27.8 97.0 85.0 61.5	10.9 32.3 42.2 27.2	Pass Pass	sult
· · · · · · · · · · · · · · · · · · ·	1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol	Concentration 20 64 ND<5.0 ND<5.0 60 43 84	U	5.0 5.0 5.0 5.0 5.0 5.0 5.0	0.330 0.400 0.310 0.300 0.550 0.420 0.380	ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM	E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11	24.1 92.4 75.6 53.5 118	27.8 97.0 85.0 61.5 126	10.9 32.3 42.2 27.2 59.1	Pass Pass Pass Pass	sult
·	1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol	Concentration 20 64 ND<5.0 ND<5.0 60 43 84 39	U	5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	0.330 0.400 0.310 0.300 0.550 0.420 0.380 0.640	ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11	24.1 92.4 75.6 53.5 118 51.3	27.8 97.0 85.0 61.5 126 58.6	10.9 32.3 42.2 27.2 59.1 18.8	Pass Pass Pass Pass Pass	sult
	1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dimitrophenol	Concentration 20 64 ND<5.0 ND<5.0 60 43 84 39 99	U	5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	0.330 0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11	24.1 92.4 75.6 53.5 118 51.3 138	27.8 97.0 85.0 61.5 126 58.6 148	10.9 32.3 42.2 27.2 59.1 18.8 24.1	Pass Pass Pass Pass Pass Pass Pass	sult
	1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dinitrophenol 2,4-Dinitrophenol 2,4-Dinitrophenol	Concentration 20 64 ND<5.0 ND<5.0 60 43 84 39 99 85	U	5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	0.330 0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700 0.600	ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11	24.1 92.4 75.6 53.5 118 51.3 138	27.8 97.0 85.0 61.5 126 58.6 148	10.9 32.3 42.2 27.2 59.1 18.8 24.1	Pass Pass Pass Pass Pass Pass Pass Pass	sult
,	1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4-G-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dinitrophenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene	Concentration 20 64 ND<5.0 ND<5.0 60 43 84 39 99 85 ND<5.0	U	5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	0.330 0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700 0.600 0.530	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11	24.1 92.4 75.6 53.5 118 51.3 138 105	27.8 97.0 85.0 61.5 126 58.6 148 124	10.9 32.3 42.2 27.2 59.1 18.8 24.1 59.2	Pass Pass Pass Pass Pass Pass Pass Pass	sult
-Chloronaphthalene 16 5.0 0.510 ug/l 1 PREM E205928-11 18.5 22.9 9.85	,2,4-Trichlorobenzene ,2-Dichlorobenzene ,3-Dichlorobenzene ,4-Dichlorobenzene ,4,5-Trichlorophenol ,4,6-Trichlorophenol ,4-Dichlorophenol ,4-Dimethylphenol ,4-Dinitrophenol ,4-Dinitrotoluene ,6-Dinitrotoluene -Chloronaphthalene	Concentration 20 64 ND<5.0 ND<5.0 60 43 84 39 99 85 ND<5.0 16	U	5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	0.330 0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700 0.600 0.530 0.510	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11	24.1 92.4 75.6 53.5 118 51.3 138 105	27.8 97.0 85.0 61.5 126 58.6 148 124	10.9 32.3 42.2 27.2 59.1 18.8 24.1 59.2 9.85	Pass Pass Pass Pass Pass Pass Pass Pass	sult
-Chloronaphthalene 16 5.0 0.510 ug/l 1 PREM E205928-I1 18.5 22.9 9.85 -Chlorophenol 47 5.0 0.400 ug/l 1 PREM E205928-I1 62.0 68.7 29.1	,2,4-Trichlorobenzene ,2-Dichlorobenzene ,3-Dichlorobenzene ,4-Dichlorobenzene ,4,5-Trichlorophenol ,4,6-Trichlorophenol ,4-Dichlorophenol ,4-Dimethylphenol ,4-Dinitrophenol ,4-Dinitrotoluene ,6-Dinitrotoluene -Chlorophenol	Concentration 20 64 ND<5.0 ND<5.0 60 43 84 39 99 85 ND<5.0 16 47	U U	5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	0.330 0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700 0.600 0.530 0.510 0.400	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11	24.1 92.4 75.6 53.5 118 51.3 138 105	27.8 97.0 85.0 61.5 126 58.6 148 124	10.9 32.3 42.2 27.2 59.1 18.8 24.1 59.2 9.85	Pass Pass Pass Pass Pass Pass Pass Pass	sult
2-Chloronaphthalene 16 5.0 0.510 ug/l 1 PREM E205928-11 18.5 22.9 9.85 2-Chlorophenol 47 5.0 0.400 ug/l 1 PREM E205928-11 62.0 68.7 29.1 2-Methylnaphthalene ND<5.0 U 5.0 0.430 ug/l 1 PREM E205928-11	1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,4,5-Trichlorophenol 1,4,6-Trichlorophenol 1,4-Dichlorophenol 1,4-Dimethylphenol 1,4-Dinitrophenol 1,4-Dinitrotoluene 1,6-Dinitrotoluene 1,6-Dinitrotoluene 1-Chlorophenol 1-Methylnaphthalene	Concentration 20 64 ND<5.0 ND<5.0 60 43 84 39 99 85 ND<5.0 16 47 ND<5.0	U U	5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	0.330 0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700 0.530 0.510 0.400 0.430	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11	24.1 92.4 75.6 53.5 118 51.3 138 105 18.5 62.0	27.8 97.0 85.0 61.5 126 58.6 148 124 22.9 68.7	10.9 32.3 42.2 27.2 59.1 18.8 24.1 59.2 9.85 29.1	Pass Pass Pass Pass Pass Pass Pass Pass	sult
2-Chloronaphthalene       16       5.0       0.510       ug/l       1       PREM       E205928-I1       18.5       22.9       9.85         2-Chlorophenol       47       5.0       0.400       ug/l       1       PREM       E205928-I1       62.0       68.7       29.1         2-Methylnaphthalene       ND<5.0	1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dinitrophenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Chloronaphthalene 2-Chlorophenol 2-Methylphenol (o-Cresol)	Concentration 20 64 ND<5.0 ND<5.0 60 43 84 39 99 85 ND<5.0 16 47 ND<5.0 21	U U U	5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	0.330 0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700 0.530 0.510 0.400 0.430 0.420	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11	24.1 92.4 75.6 53.5 118 51.3 138 105 18.5 62.0	27.8 97.0 85.0 61.5 126 58.6 148 124 22.9 68.7	10.9 32.3 42.2 27.2 59.1 18.8 24.1 59.2 9.85 29.1	Pass Pass Pass Pass Pass Pass Pass Pass	sult
2-Chloronaphthalene 16 5.0 0.510 ug/l 1 PREM E205928-I1 18.5 22.9 9.85 2-Chlorophenol 47 5.0 0.400 ug/l 1 PREM E205928-I1 62.0 68.7 29.1 2-Methylnaphthalene ND<5.0 U 5.0 0.430 ug/l 1 PREM E205928-I1 62.0 68.7 29.1 2-Methylphenol (o-Cresol) 21 5.0 0.420 ug/l 1 PREM E205928-I1 28.9 33.0 12.2 2-Nitroaniline ND<10 U 10 0.550 ug/l 1 PREM E205928-I1	1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Chloronaphthalene 2-Chlorophenol 2-Methylnaphthalene 2-Methylphenol (o-Cresol) 2-Nitroaniline	Concentration 20 64 ND<5.0 ND<5.0 60 43 84 39 99 85 ND<5.0 16 47 ND<5.0 21 ND<10	U U U	5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	0.330 0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700 0.530 0.510 0.400 0.430 0.420 0.550	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11 E205928-11	24.1 92.4 75.6 53.5 118 51.3 138 105 18.5 62.0 28.9	27.8 97.0 85.0 61.5 126 58.6 148 124 22.9 68.7 33.0	10.9 32.3 42.2 27.2 59.1 18.8 24.1 59.2 9.85 29.1	Pass Pass Pass Pass Pass Pass Pass Pass	sult

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3-Nitroaniline	ND<10	U	10	0.440	ug/l	1	PREM E20592	8-11			
4,6-Dinitro-2-Methylphenol	140		5.0	0.300	ug/l	1	PREM E20592	8-11 144	177	48.7	Pass
4-Bromophenyl Phenyl ether	80		5.0	0.530	ug/l	1	PREM E20592	8-11 98.3	112	56.3	Pass
4-Chloro-3-Methylphenol	52		5.0	0.440	ug/l	1	PREM E20592	8-11 66.4	75.4	35.1	Pass
4-Chloroaniline	ND<10	U	10	0.410	ug/l	1	PREM E20592	8-11			
4-Chlorophenyl Phenyl ether	68		5.0	0.540	ug/l	1	PREM E20592	8-11 86.9	97.6	46.5	Pass
4-Nitroaniline	ND<10	U	10	0.480	ug/l	1	PREM E20592	8-11			
4-Nitrophenol	28		5.0	0.290	ug/l	1	PREM E20592	8-11 64.6	73.9	0	Pass
Acenaphthene	ND<5.0	U	5.0	0.450	ug/l	1	PREM E205928	8-11			
Acenaphthylene	16		5.0	0.470	ug/l	1	PREM E205928	3-11 18.3	21.3	9.34	Pass
Anthracene	18		5.0	0.560	ug/l	1	PREM E20592	8-11 20.6	23.3	11.2	Pass
Benzo(a)anthracene	22		5.0	0.420	ug/l	1	PREM E205928	3-11 25.0	26.2	17.2	Pass
Benzo(a)pyrene	ND<5.0	U	5.0	0.350	ug/l	1	PREM E205928	3-11			
Benzo(b)fluoranthene	12		5.0	0.400	ug/l	1	PREM E205928	3-11 15.1	17.9	8.61	Pass
Benzo(g,h,i)perylene	ND<5.0	U	5.0	0.420	ug/l	1	PREM E20592	3-11			
Benzo(k)fluoranthene	ND<5.0	U	5.0	0.360	ug/l	1	PREM E205928	8-11			
Benzyl Butyl Phthalate	85		5.0	0.460	ug/l	1	PREM E205928	3-11 ` 111	123	45.1	Pass
Carbazole	ND<5.0	U	5.0	0.400	ug/l	1	PREM E205928	3-11			
Chrysene	24		5.0	0.440	ug/l	1	PREM E205928		28.8	16.0	Pass
Cresol,m- & p-	ND<5.0	U	5.0	0.740	ug/l	1	PREM E205928				
Dibenz(a,h)anthracene	ND<5.0	U	5.0	0.370	ug/l	1	PREM E205928	3-11			
Dibenzofuran	52		10	0.480	ug/l	1	PREM E205928		70.1	34.9	Pass
Diethyl Phthalate	97		5.0	0.660	ug/l	1	PREM E205928		169	51.5	Pass
Dimethyl Phthalate	12		5.0	0.600	ug/l	1	PREM E205928	3-11 14.5	17.1	5.54	Pass
Fluoranthene	18		5.0	0.480	ug/l	l	PREM E205928		22.7	13.6	Pass
Fluorene	35		5.0	0.540	ug/l	1	PREM E205928		45.6	22.5	Pass
Hexachlorobenzene	ND<5.0	U	5.0	0.550	ug/l	1	PREM E205928				
Hexachlorobutadiene	ND<5.0	U	5.0	0.320	ug/l	]	PREM E205928				
Hexachlorocyclopentadiene	ND<5.0	U	5.0	0.250	ug/l	1	PREM E205928				
Hexachloroethane	ND<5.0	U	5.0	0.270	ug/l	1	PREM E205928				
Indeno(1,2,3-c,d)pyrene	15		5.0	0.400	ug/l	I	PREM E205928		21.0	9.27	Pass
Isophorone	51		5.0	0.440	ug/l	1	PREM E205928		67.3	31.0	Pass
Naphthalene	110		5.0	0.390	ug/l	Į	PREM E205928		156	58.2	Pass
Nitrobenzene	73		5.0	0.380	ug/l	1	PREM E205928		112	48.1	Pass
Pentachlorophenol	65		5.0	0.380	ug/l	1	PREM E205928		92.9	33.3	Pass
Phenanthrene	23		5.0	0.560	ug/l	1	PREM E205928		27.3	14.5	Pass
Phenol	52		5.0	0.360	ug/l	1	PREM E205928		145	29.7	Pass
Pyrene	28		5.0	0.390	ug/l	1	PREM E205928		39.3	15.6	Pass
bis(2-Chloroethoxy) Methane	73		5.0	0.460	ug/l	1	PREM E205928	3-11 118	124	62.2	Pass
bis(2-Chloroethyl) ether (2-Chloroethyl	ND<5.0	U	5.0	0.350	ug/l	1	PREM E205928	3-11			



bis(2-Chloroisopropyl) ether ND<10 U 10 0.310 ug/l I PREM E205928-11 bis(2-Ethylhexyl) Phthalate 27 5.0 1.77 ug/l I PREM E205928-11 20.9 27 In-Nitrosodi-n-Propylamine ND<5.0 U 5.0 0.500 ug/l I PREM E205928-11 61.1 77.2 27 1.00	Engineering Associates, Ir
bis(2-Ethylhexyl) Phthalate 27 5.0 1.77 ug/l 1 PREM E205928-11 20.9 27 di-n-Butyl Phthalate ND<5.0 U 5.0 1.14 ug/l 1 PREM E205928-11 di-n-Octylphthalate 55 5.0 0.500 ug/l 1 PREM E205928-11 61.1 77.2 2 n-Nitrosodi-n-Propylamine ND<5.0 U 5.0 0.580 ug/l 1 PREM E205928-11	
di-n-Butyl Phthalate     ND<5.0     U     5.0     1.14     ug/l     1     PREM     E205928-11       di-n-Octylphthalate     55     5.0     0.500     ug/l     1     PREM     E205928-11     61.1     77.2     2       n-Nitrosodi-n-Propylamine     ND<5.0	
di-n-Octylphthalate       55       5.0       0.500       ug/l       1       PREM       E205928-11       61.1       77.2       2         n-Nitrosodi-n-Propylamine       ND<5.0	4.1
n-Nitrosodi-n-Propylamine ND<5.0 U 5.0 0.580 ug/l 1 PREM E205928-11	
· · · · · · · · · · · · · · · · · · ·	24.7 Pass
26 0 0 0 0 0 DDDA F00000 11 10 0 0 1	
n-Nitrosodiphenylamine 35 5.0 0.640 ug/l 1 PREM E205928-11 49.7 60.1 2	Pass
Location Identifier: WT-AC-03-123	
Sample Identifier 2002418 05/22/2002 13:56 Performance Evaluation - Water	
Chemical Name  Reported Qualifiers R.L. M.D.L. Units Dil. Lab. Lab. Number Reference Upper Limit	Lower Limit Besult
Concentration Concentration Cualifiers K.E. W.D.E. Office Di. Lao. Lao. Number Reference Opper Limit	Lower Limit Result
Total Petroleum Hydrocarbons EPA 418.1 91 6.0 2.25 mg/L 15 PREM E205928-12 94.8 119 5	6.9 Pass
Location Identifier: WT-AC-03-124	
Sample Identifier 2002419 05/22/2002 13:58 Performance Evaluation - Water	
Chemical Name Reported Concentration Qualifiers R.L. M.D.L. Units Dil. Lab. Lab. Number Reference Upper Limit	Lower Limit Result
1,1,1-Trichloroethane 48 5.0 0.184 ug/l 1 PREM E205928-13 39.6 48 3	0.1 FALSE POSITIVE
1,1,2,2-Tetrachloroethane 120 5.0 0.243 ug/l 1 PREM E205928-13 133 168 9	6.2 Pass
1,1,2-Trichloroethane ND<5.0 U 5.0 0.175 ug/1 1 PREM E205928-13	
1,1-Dichloroethane ND<5.0 U 5.0 0.228 ug/l 1 PREM E205928-13	
1.1-Dichloroethene ND<5.0 U 5.0 0.274 ug/l 1 PREM E205928-13	
1,2-Dichloroethane 74 5.0 0.288 ug/l 1 PREM E205928-13 73.8 90.0 5	8.7 Pass
1,2-Dichloropropane 66 5.0 0.234 ug/l I PREM E205928-13 64.5 75.5 5	0.3 Pass
2-Hexanone ND<10 U 10 1.88 ug/l 1 PREM E205928-13	
Acetone ND<20 U 20 2.65 ug/l 1 PREM E205928-13	
Benzene 35 5.0 0.184 ug/l 1 PREM E205928-13 30.1 36.1 2	4.4 Pass
	4.7 Pass
	1.5 Pass
<b>_</b>	
Bromomethane ND<5.0 U 5.0 0.167 ug/l l PREM E205928-13	
Bromomethane         ND<5.0         U         5.0         0.167         ug/l         1         PREM         E205928-13           Carbon Disulfide         ND<5.0	5.5 Pass
Bromomethane         ND<5.0         U         5.0         0.167         ug/l         l         PREM         E205928-13           Carbon Disulfide         ND<5.0	5.5 Pass 2.0 Pass
Bromomethane         ND<5.0         U         5.0         0.167         ug/l         I         PREM         E205928-13           Carbon Disulfide         ND<5.0	
Bromomethane         ND<5.0         U         5.0         0.167         ug/l         l         PREM         E205928-13           Carbon Disulfide         ND<5.0	
Bromomethane         ND<5.0         U         5.0         0.167         ug/l         l         PREM         E205928-13           Carbon Disulfide         ND<5.0	2.0 Pass
ND<5.0   U   S.0   0.167   ug/l   1   PREM   E205928-13   Carbon Disulfide   ND<5.0   U   S.0   0.498   ug/l   1   PREM   E205928-13   2.0 Pass	
Bromomethane	2.0 Pass 1.2 Pass



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Methyl Isobutyl ketone (4-Methyl-2-Penta	54		10	1.89	ug/l	1	PREM	E205928-13	59.8	75.9	35.1	Pass	
Methylene Chloride	30		5.0	0.789	ug/l	1	PREM	E205928-13	27.8	35.2	21.1	Pass	
Styrene	ND<5.0	U	5.0	0.170	ug/l	1	PREM	E205928-13					
Tetrachloroethylene (PCE)	47		5.0	0.171	ug/l	1	PREM	E205928-13	50.3	59.3	38.5	Pass	
Toluene	39		5.0	0.188	ug/l	1	PREM	E205928-13	40.2	46.7	32.4	Pass	
Trichloroethylene (TCE)	25		5.0	0.220	ug/l	1	PREM	E205928-13	24.8	29.5	18.9	Pass	
Vinyl Chloride	ND<5.0	U	5.0	0.111	ug/l	1	PREM	E205928-13					
cis-1,3-Dichloropropene	ND<5.0	U	5.0	0.139	ug/l	1	PREM	E205928-13					
m,p-Xylene (Sum of Isomers)	ND<5.0	U	5.0	0.424	ug/l	1	PREM	E205928-13					
o-Xylene (1,2-Dimethylbenzene)	ND<5.0	U	5.0	0.171	ug/l	1	PREM	E205928-13					
trans-1,3-Dichloropropene	ND<5.0	U	5.0	0.0680	ug/l	1	PREM	E205928-13					
ocation Identifier: WT-AC-03-125	0.5/0.0/0.00							·					
Sample Identifier 2002458	05/30/2002 12:4	5 Per	torman	ce Evalu	iation	- Wate	er						
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	t	Result
CB-1016 (Arochlor 1016)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E205C16-5					
CB-1221 (Arochlor 1221)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E205C16-5					
PCB-1232 (Arochlor 1232)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E205C16-5					
PCB-1242 (Arochlor 1242)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E205C16-5					
PCB-1248 (Arochlor 1248)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E205C16-5					
PCB-1254 (Arochlor 1254)	6.1		0.40	0.120	ug/l	1	PREM	E205C16-5	7.33	9.97	3.59	Pass	
PCB-1260 (Arochlor 1260)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E205C16-5					
	-	-											
ocation identifier: WT-AU-03-126													
ocation Identifier: WT-AC-03-126 Sample Identifier 2002491	05/30/2002 18:0	0 Per	forman	ce Evalı	ation -	- Wate	er	407 m m 4000444 (4000 - 400 - 11 - 1 - 1					
Sample Identifier 2002491	05/30/2002 18:0  Reported Concentration	00 Per Qualifiers	forman R.L.	ce Evalı M.D.L.	Units	- Wate Dil.	er Lab.	Lab. Number	Reference	Upper Limit	Lower Limit		Result
Sample Identifier 2002491 hemical Name	Reported						Lab.	Lab. Number E205C82-10	Reference	Upper Limit	Lower Limit		Result
Sample Identifier 2002491 hemical Name CB-1016 (Arochlor 1016)	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units		Lab. PREM		Reference	Upper Limit	Lower Limit		Result
Sample Identifier 2002491 Chemical Name CB-1016 (Arochlor 1016) CB-1221 (Arochlor 1221)	Reported Concentration ND<0.40	Qualifiers U	R.L. 0.40	M.D.L. 0.120	Units ug/l		Lab. PREM PREM	E205C82-10	Reference	Upper Limit	Lower Limit		Result
Sample Identifier 2002491 Chemical Name PCB-1016 (Arochlor 1016) PCB-1221 (Arochlor 1221) PCB-1232 (Arochlor 1232)	Reported Concentration ND<0.40 ND<0.40	Qualifiers U U	R.L. 0.40 0.40	M.D.L. 0.120 0.120	Units ug/l ug/l		Lab. PREM PREM PREM	E205C82-10 E205C82-10	Reference	Upper Limit	Lower Limit		Result
	Reported Concentration ND<0.40 ND<0.40 ND<0.40	Qualifiers  U U U	R.L. 0.40 0.40 0.40	M.D.L. 0.120 0.120 0.120	Units ug/l ug/l ug/l		Lab. PREM PREM PREM PREM	E205C82-10 E205C82-10 E205C82-10	Reference	Upper Limit	Lower Limit		Result
Sample Identifier 2002491  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)  PCB-1242 (Arochlor 1242)	Reported Concentration ND<0.40 ND<0.40 ND<0.40 ND<0.40	Qualifiers U U U U	R.L. 0.40 0.40 0.40 0.40	M.D.L. 0.120 0.120 0.120 0.120	Units ug/l ug/l ug/l ug/l		PREM PREM PREM PREM PREM	E205C82-10 E205C82-10 E205C82-10 E205C82-10	Reference	Upper Limit	Lower Limit	Pass	Result



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Sample Identifier 200		0/2002 18:0				uation -								
Chemical Name		Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit		Result
Arsenic		0.20		0.010	0	mg/L	1	PREM	E205C82-11	0.189	.216	.162	Pass	
Barium		0.42		0.010	0.00068	0 mg/L	l	PREM	E205C82-11	.405	.448	.362	Pass	
Cadmium		0.041		0.0020	0.00032	0 mg/L	1	PREM	E205C82-11	0.0424	0.0473	0.0375	Pass	
Chromium, Total		0.21		0.010	0.00074	0 mg/L	1	PREM	E205C82-11	0.194	0.215	0.173	Pass	
Copper		0.14		0.010	0.00087	0 mg/L	1	PREM	E205C82-11	0.130	0.145	0.115	Pass	
Lead		0.27		0.004	0.00175	mg/L	1	PREM	E205C82-11	0.261	0.293	0.229	Pass	
Mercury		0.0025		0.000	2(0.00002	2 mg/L	1	PREM	E205C82-11	0.00283	0.00354	0.00212	Pass	
Nickel		0.16		0.010	0.00108	mg/L	1	PREM	E205C82-11	0.153	0.169	0.137	Pass	
Selenium		0.23		0.010	0.00460	mg/L	1	PREM	E205C82-11	0.231	0.265	0.197	Pass	
Silver		0.31		0.002	0.00627	mg/L	ì	PREM	E205C82-11	0.308	0.345	0.271	Pass	
Zinc		0.12		0.010	0.00198	mg/L	1	PREM	E205C82-11	0.114	.128	0.0998	Pass	
Cyanide	Maria I	Concentration									Upper Limit			
		0.75		0.020		mg/L	2	PREM	E205C82-12	0.722	and the second		Pass	
Cyania		0.75		0.020		mg/L	2	PREM	E205C82-12	0.722	0.917	0.500	Pass	
ocation Identifier: WT-A			7 Danie		Fl				E205C82-12	0.722	and the second		Pass	
ocation Identifier: WT-A		/2002 18:0	7 Perf		ce Evalı				E205C82-12	0.722	and the second		Pass	
ocation Identifier: WT-At Sample Identifier 200			7 Perf		ce Evalı M.D.L.	uation -			E205C82-12 Lab. Number		and the second	0.500		Result
ocation Identifier: WT-A0 Sample Identifier 200 Chemical Name		N/2002 18:0 Reported Concentration 57		R.L.	M.D.L.	uation -	Wate	er Lab. PREM	Lab. Number E205C82-13		0.917	0.500		Result E POSITIV
ocation Identifier: WT-A0 Sample Identifier 200 Chemical Name		Reported Concentration 57 ND<5.0	Qualifiers U	Forman R.L. 5.0 5.0	M.D.L. 0.330 0.400	uation -	Wate	Lab. PREM PREM	Lab. Number E205C82-13 E205C82-13		0.917	0.500		
ocation Identifier: WT-A0 Sample Identifier 200 Chemical Name 1,2,4-Trichlorobenzene 1,2-Dichlorobenzene		Reported Concentration 57 ND<5.0 ND<5.0	Qualifiers U U	Forman R.L. 5.0 5.0 5.0	M.D.L. 0.330 0.400 0.310	uation - Units ug/I	Wate	Lab. PREM PREM	Lab. Number E205C82-13 E205C82-13 E205C82-13		0.917	0.500		
ocation Identifier: WT-A0 Sample Identifier 200 Chemical Name 1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene		Reported Concentration 57 ND<5.0 ND<5.0 ND<5.0	Qualifiers U	Forman R.L. 5.0 5.0	M.D.L. 0.330 0.400 0.310 0.300	uation - Units ug/I ug/I	Water Dil.	PREM PREM PREM PREM PREM	Lab. Number E205C82-13 E205C82-13 E205C82-13 E205C82-13		0.917 Upper Limit	0.500		
ocation Identifier: WT-A0 Sample Identifier 200 Chemical Name 1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene		Reported Concentration 57 ND<5.0 ND<5.0 ND<5.0 74	Qualifiers U U	Forman R.L. 5.0 5.0 5.0	M.D.L. 0.330 0.400 0.310	uation - Units ug/I ug/I ug/I	Water Dil.	PREM PREM PREM PREM PREM	Lab. Number E205C82-13 E205C82-13 E205C82-13		0.917 Upper Limit	0.500		
ocation Identifier: WT-A0 Sample Identifier 200 Chemical Name 1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol		Reported Concentration 57 ND<5.0 ND<5.0 ND<5.0	Qualifiers U U	Forman R.L. 5.0 5.0 5.0 5.0	M.D.L. 0.330 0.400 0.310 0.300	Units  Units  ug/I  ug/I  ug/I  ug/I	Water Dil.	PREM PREM PREM PREM PREM PREM	Lab. Number E205C82-13 E205C82-13 E205C82-13 E205C82-13	Reference	0.917 Upper Limit	Lower Limit	FALSE	
ocation Identifier: WT-A0 Sample Identifier 200 Chemical Name  1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol		Reported Concentration 57 ND<5.0 ND<5.0 ND<5.0 74	Qualifiers U U	Forman  R.L.  5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	M.D.L. 0.330 0.400 0.310 0.300 0.550	Units  Units  ug/l  ug/l  ug/l  ug/l  ug/l	Water Dil.	PREM PREM PREM PREM PREM PREM PREM	Lab. Number E205C82-13 E205C82-13 E205C82-13 E205C82-13 E205C82-13	Reference	0.917 Upper Limit 126 169	0.500 Lower Limit 59.2 71.7	FALSE Pass	
ocation Identifier: WT-A6 Sample Identifier 200 Chemical Name 1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol		Reported Concentration 57 ND<5.0 ND<5.0 ND<5.0 74	Qualifiers U U	R.L. 5.0 5.0 5.0 5.0 5.0 5.0 5.0	M.D.L. 0.330 0.400 0.310 0.300 0.550 0.420	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	Water Dil.	PREM PREM PREM PREM PREM PREM PREM PREM	Lab. Number E205C82-13 E205C82-13 E205C82-13 E205C82-13 E205C82-13 E205C82-13	Reference	0.917 Upper Limit 126 169 199	0.500 Lower Limit 59.2 71.7	FALSE Pass Pass	
ocation Identifier: WT-A6 Sample Identifier 200 Chemical Name 1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dichlorophenol		Reported Concentration 57 ND<5.0 ND<5.0 ND<5.0 74 92 130	Qualifiers U U	Forman  R.L.  5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	M.D.L. 0.330 0.400 0.310 0.300 0.550 0.420 0.380	Units  ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/	Water Dil.	PREM PREM PREM PREM PREM PREM PREM PREM	Lab. Number E205C82-13 E205C82-13 E205C82-13 E205C82-13 E205C82-13 E205C82-13	Reference 112 146 189	0.917 Upper Limit 126 169 199 139	0.500 Lower Limit 59.2 71.7 94.3	Pass Pass Pass	
Cocation Identifier: WT-A6 Sample Identifier 200 Chemical Name  1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dinitrophenol		Reported Concentration 57 ND<5.0 ND<5.0 ND<5.0 74 92 130 76	Qualifiers U U	Forman R.L. 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	M.D.L. 0.330 0.400 0.310 0.300 0.550 0.420 0.380 0.640	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	Water Dil.	PREM PREM PREM PREM PREM PREM PREM PREM	Lab. Number E205C82-13 E205C82-13 E205C82-13 E205C82-13 E205C82-13 E205C82-13 E205C82-13	Reference 112 146 189 123	0.917 Upper Limit 126 169 199 139 191	0.500 Lower Limit 59.2 71.7 94.3 49.0 30.1	Pass Pass Pass Pass	
Location Identifier: WT-A		Reported Concentration 57 ND<5.0 ND<5.0 ND<5.0 74 92 130 76 97	Qualifiers U U	Forman  R.L.  5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5	M.D.L.  0.330 0.400 0.310 0.300 0.550 0.420 0.380 0.640 0.0700	uation - Units  ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/	Water Dil.	PREM PREM PREM PREM PREM PREM PREM PREM	Lab. Number  E205C82-13 E205C82-13 E205C82-13 E205C82-13 E205C82-13 E205C82-13 E205C82-13 E205C82-13	Reference  112 146 189 123 184	0.917  Upper Limit  126 169 199 139 191 51.2	0.500 Lower Limit 59.2 71.7 94.3 49.0 30.1	Pass Pass Pass Pass Pass	

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, age										Lou	reiro Engine	eering Associates, Inc.
2-Chlorophenol	55		5.0	0.400	ug/l	1	PREM	E205C82-13	87.2	96.0	39.9	Pass
2-Methylnaphthalene	ND<5.0	U	5.0	0.430	ug/i	1	PREM	E205C82-13				
2-Methylphenol (o-Cresol)	19		5.0	0.420	ug/l	1	PREM	E205C82-13	30.4	36.5	10.5	Pass
2-Nitroaniline	ND<10	U	10	0.550	ug/l	1	PREM	E205C82-13				
2-Nitrophenol	18		5.0	0.420	ug/l	1	PREM	E205C82-13	28.7	32.2	14.0	Pass
3,3'-Dichlorobenzidine	ND<5.0	U	5.0	0.730	ug/l	1	PREM	E205C82-13				
3-Nitroaniline	ND<10	U	10	0.440	ug/l	1	PREM	E205C82-13				
4,6-Dinitro-2-Methylphenol	38		5.0	0.300	ug/l	1	PREM	E205C82-13	60.2	65.9	26.3	Pass
4-Bromophenyl Phenyl ether	ND<5.0	U	5.0	0.530	ug/l	1	PREM	E205C82-13				
4-Chloro-3-Methylphenol	100		5.0	0.440	ug/l	1	PREM	E205C82-13	158	180	85.7	Pass
4-Chloroaniline	ND<10	U	10	0.410	ug/l	1	PREM	E205C82-13				
4-Chlorophenyl Phenyl ether	55		5.0	0.540	ug/l	1	PREM	E205C82-13	82.5	95.7	39.3	Pass
4-Nitroaniline	ND<10	U	10	0.480	ug/l	1	PREM	E205C82-13				
4-Nitrophenol	ND<5.0	U	5.0	0.290	ug/l	ì	PREM	E205C82-13				
Acenaphthene	24		5.0	0.450	ug/l	1	PREM	E205C82-13	38.1	42.9	17.7	Pass
Acenaphthylene	ND<5.0	U	5.0	0.470	ug/l	1	PREM	E205C82-13				
Anthracene	40		5.0	0.560	ug/l	1	PREM	E205C82-13	60.8	71.1	31.4	Pass
Benzo(a)anthracene	43		5.0	0.420	ug/i	1	PREM	E205C82-13	65.2	77.0	34.8	Pass
Benzo(a)pyrene	21		5.0	0.350	ug/l	1	PREM	E205C82-13	32.9	40.4	14.6	Pass
Benzo(b)fluoranthene	24		5.0	0.400	ug/l	1	PREM	E205C82-13	37.9	47.4	17.6	Pass
Benzo(g,h,i)perylene	ND<5.0	U	5.0	0.420	ug/l	1	PREM	E205C82-13				
Benzo(k)fluoranthene	32		5.0	0.360	ug/l	1	PREM	E205C82-13	48.4	62.4	22.0	Pass
Benzyl Butyl Phthalate	78		5.0	0.460	ug/l	1	PREM	E205C82-13	119	146	47.7	Pass
Carbazole	ND<5.0	U	5.0	0.400	ug/l	1	PREM	E205C82-13				
Chrysene	ND<5.0	U	5.0	0.440	ug/l	1	PREM	E205C82-13				
Cresol,m- & p-	ND<5.0	U	5.0	0.740	ug/l	1	PREM	E205C82-13				
Dibenz(a,h)anthracene	ND<5.0	U	5.0	0.370	ug/l	1	PREM	E205C82-13				
Dibenzofuran	ND<10	U	10	0.480	ug/l	1	PREM	E205C82-13				
Diethyl Phthalate	120		5.0	0.660	ug/l	1	PREM	E205C82-13	168	210	49.7	Pass
Dimethyl Phthalate	54		5.0	0.600	ug/l	1	PREM	E205C82-13	82.2	109	0	Pass
Fluoranthene	ND<5.0	U	5.0	0.480	ug/l	l	PREM	E205C82-13				
Fluorene	ND<5.0	U	5.0	0.540	ug/l	i	PREM	E205C82-13				
Hexachlorobenzene	67		5.0	0.550	ug/l	1	PREM	E205C82-13	108	124	54.4	Pass
Hexachlorobutadiene	27		5.0	0.320	ug/l	1	PREM	E205C82-13	47.4	54.7	0	Pass
Hexachlorocyclopentadiene	43		5.0	0.250	ug/l	1	PREM	E205C82-13	83.0	103	0	Pass
Hexachloroethane	33		5.0	0.270	ug/l	1	PREM	E205C82-13	56.0	63.8	0	Pass
Indeno(1,2,3-c,d)pyrene	ND<5.0	U	5.0	0.400	ug/l	1	PREM	E205C82-13				
Isophorone	74		5.0	0.440	ug/l	1	PREM	E205C82-13	112	133	. 53.6	Pass
Naphthalene	52		5.0	0.390	ug/l	1	PREM	E205C82-13	84.5	91.9	30.3	Pass
Nitrobenzene	24		5.0	0.380	ug/l	1	PREM	E205C82-13	33.4	38.4	0	Pass



Page 74										Loureir	o Engineeri	ng As:	sociates
Pentachlorophenol	32		5.0	0.380	ug/l	1	PREM	E205C82-13	67.4	80.1	28.1	Pass	
Phenanthrene	60		5.0	0.560	ug/l	l	PREM	E205C82-13	88.0	146.4	0	Pass	
Phenol	24		5.0	0.360	ug/l	1	PREM	E205C82-13	63.4	70.0	0	Pass	
Pyrene	19		5.0	0.390	ug/l	I	PREM	E205C82-13	28.2	43.1	0	Pass	
bis(2-Chloroethoxy) Methane	ND<5.0	U	5.0	0.460	ug/l	1	PREM	E205C82-13					
bis(2-Chloroethyl) ether (2-Chloroethyl	ND<5.0	U	5.0	0.350	ug/l	l	PREM	E205C82-13					
bis(2-Chloroisopropyl) ether	27		10	0.310	ug/l	1	PREM	E205C82-13	42.2	52.9	9.19	Pass	
bis(2-Ethylhexyl) Phthalate	47		5.0	1.77	ug/l	1	PREM	E205C82-13	69.7	88.4	32.1	Pass	
di-n-Butyl Phthalate	73		5.0	1.14	ug/l	1	PREM	E205C82-13	110	135	49.5	Pass	
di-n-Octylphthalate	54		5.0	0.500	ug/l	1	PREM	E205C82-13	76.2	105	32.1	Pass	
n-Nitrosodi-n-Propylamine	49		5.0	0.580	ug/l	1	PREM	E205C82-13	70.7	84.9	28.1	Pass	
n-Nitrosodiphenylamine	ND<5.0	U	5.0	0.640	ug/l	1	PREM	E205C82-13					
Location Identifier: WT-AC-03-130													
Sample Identifier 2002495	05/30/2002 18:0	9 Perf	forman	ice Evali	uation -	Wate	er						
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	t	Result
	Concentration												
Total Petroleum Hydrocarbons EPA 418.1  Location Identifier: WT-AC-03-131	72		4.0	1.50	mg/L	10	PREM	E205C82-14	78.9	98.6	47.3	Pass	
		2 Perí		1.50 ce Evalı				E205C82-14	78.9	98.6	47.3	Pass	
Location Identifier: WT-AC-03-131	72	2 Perf			uation -			E205C82-14  Lab. Number	78.9				Result
Location Identifier: WT-AC-03-131 Sample Identifier 2002496	72 05/30/2002 18:1 Reported		forman	ce Evalı	uation -	Wate	er Lab.	Lab, Number					Result
Location Identifier: WT-AC-03-131 Sample Identifier 2002496 Chemical Name	72 05/30/2002 18:1 Reported Concentration		forman R.L.	ce Evalı	uation -	Wate	er Lab. PREM	Lab, Number	Reference	Upper Limit	Lower Limit		Result
Location Identifier: WT-AC-03-131 Sample Identifier 2002496 Chemical Name 1,1,1-Trichloroethane	72 05/30/2002 18:1 Reported Concentration 30		forman R.L. 5.0	M.D.L.	uation - Units ug/l	Wate Dil.	Lab. PREM PREM	Lab. Number E205C82-15	Reference	Upper Limit	Lower Limit	Pass	Result
Location Identifier: WT-AC-03-131 Sample Identifier 2002496  Chemical Name 1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane	72 05/30/2002 18:1 Reported Concentration 30 38	Qualifiers	forman R.L. 5.0 5.0	M.D.L. 0.184 0.243	uation - Units ug/l ug/l	Wate Dil. 1	Lab. PREM PREM PREM	Lab. Number E205C82-15 E205C82-15 E205C82-15	Reference	Upper Limit	Lower Limit	Pass	Result
Location Identifier: WT-AC-03-131 Sample Identifier 2002496  Chemical Name 1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane	72 05/30/2002 18:1 Reported Concentration 30 38 ND<5.0	Qualifiers	Forman R.L. 5.0 5.0 5.0	M.D.L. 0.184 0.243 0.175	uation - Units ug/l ug/l ug/l	Wate Dil. 1	Lab. PREM PREM PREM PREM PREM	Lab. Number E205C82-15 E205C82-15 E205C82-15	Reference	Upper Limit	Lower Limit	Pass	Result
Location Identifier: WT-AC-03-131 Sample Identifier 2002496  Chemical Name  1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane	72 05/30/2002 18:1 Reported Concentration 30 38 ND<5.0 ND<5.0	Qualifiers U U	Forman R.L. 5.0 5.0 5.0 5.0	M D.L. 0.184 0.243 0.175 0.228	Units  ug/l  ug/l  ug/l  ug/l	Wate Dil. 1	Lab. PREM PREM PREM PREM PREM PREM	Lab. Number E205C82-15 E205C82-15 E205C82-15 E205C82-15	Reference	Upper Limit	Lower Limit	Pass	Result
Location Identifier: WT-AC-03-131 Sample Identifier 2002496  Chemical Name  1,1,1-Trichloroethane 1,1,2-Trichloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethane	72  05/30/2002 18:1  Reported Concentration 30 38 ND<5.0 ND<5.0 ND<5.0	Qualifiers U U	Forman R.L. 5.0 5.0 5.0 5.0 5.0	0.184 0.243 0.175 0.228 0.274	Units  Units  ug/l  ug/l  ug/l  ug/l  ug/l  ug/l	Wate Dil. 1	Lab. PREM PREM PREM PREM PREM PREM PREM PREM	Lab. Number E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15	Reference 25.8 37.1	Upper Limit 31.5 49.5	Lower Limit 18.1 26.1	Pass Pass	Result
Location Identifier: WT-AC-03-131 Sample Identifier 2002496  Chemical Name  1,1,1-Trichloroethane 1,1,2-Trichloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane	72  05/30/2002 18:1  Reported Concentration 30 38 ND<5.0 ND<5.0 ND<5.0 56	Qualifiers U U	R.L. 5.0 5.0 5.0 5.0 5.0 5.0	0.184 0.243 0.175 0.228 0.274 0.288	Units  ug/l  ug/l  ug/l  ug/l  ug/l  ug/l  ug/l  ug/l	Wate Dil. 1	Lab. PREM PREM PREM PREM PREM PREM PREM PREM	Lab. Number E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15	Reference 25.8 37.1	Upper Limit 31.5 49.5	Lower Limit 18.1 26.1	Pass Pass	Result
Location Identifier: WT-AC-03-131 Sample Identifier 2002496  Chemical Name  1,1,1-Trichloroethane 1,1,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethane 1,2-Dichloropropane	72  05/30/2002 18:1  Reported Concentration 30 38 ND<5.0 ND<5.0 ND<5.0 56 92	Qualifiers U U	Forman R.L. 5.0 5.0 5.0 5.0 5.0 5.0 5.0	0.184 0.243 0.175 0.228 0.274 0.288 0.234	Units  ug/l  ug/l  ug/l  ug/l  ug/l  ug/l  ug/l  ug/l  ug/l	Wate Dil. 1	Lab. PREM PREM PREM PREM PREM PREM PREM PREM	Lab. Number E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15	Reference 25.8 37.1 55.9 93.1	Upper Limit 31.5 49.5	Lower Limit 18.1 26.1 42.1 69.9	Pass Pass Pass	Result
Location Identifier: WT-AC-03-131 Sample Identifier 2002496  Chemical Name  1,1,1-Trichloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethane 1,2-Dichloropropane 2-Hexanone	72  05/30/2002 18:1  Reported Concentration 30 38 ND<5.0 ND<5.0 ND<5.0 S6 92 28	Qualifiers U U U	Forman R.L. 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	0.184 0.243 0.175 0.228 0.274 0.288 0.234 1.88	uation - Units ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	Wate Dil. 1	Lab. PREM PREM PREM PREM PREM PREM PREM PREM	Lab. Number E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15	Reference 25.8 37.1 55.9 93.1	Upper Limit 31.5 49.5	Lower Limit 18.1 26.1 42.1 69.9	Pass Pass Pass	Result
Location Identifier: WT-AC-03-131 Sample Identifier 2002496  Chemical Name  1,1,1-Trichloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethane 1,2-Dichloropropane 2-Hexanone Acetone	72  05/30/2002 18:1  Reported Concentration 30 38 ND<5.0 ND<5.0 ND<5.0 56 92 28 ND<20	Qualifiers U U U	Forman R.L. 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.	M.D.L. 0.184 0.243 0.175 0.228 0.274 0.288 0.234 1.88 2.65	uation - Units ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	Wate Dil. 1	Lab. PREM PREM PREM PREM PREM PREM PREM PREM	Lab. Number E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15	Reference 25.8 37.1 55.9 93.1 31.9	Upper Limit 31.5 49.5 70.5 114 43.6	Lower Limit 18.1 26.1 42.1 69.9 17.5	Pass Pass Pass Pass Pass	Result
Location Identifier: WT-AC-03-131 Sample Identifier 2002496  Chemical Name  1,1,1-Trichloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethane 1,2-Dichloropropane 2-Hexanone Acetone Benzene	72  05/30/2002 18:1  Reported Concentration 30 38 ND<5.0 ND<5.0 ND<5.0 S6 92 28 ND<20 54	Qualifiers U U U	R.L 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5	M.D.L. 0.184 0.243 0.175 0.228 0.274 0.288 0.234 1.88 2.65 0.184	uation - Units ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	Wate Dil. 1	Lab. PREM PREM PREM PREM PREM PREM PREM PREM	Lab. Number E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15	Reference 25.8 37.1 55.9 93.1 31.9 51.7	Upper Limit 31.5 49.5 70.5 114 43.6 62.9	Lower Limit 18.1 26.1 42.1 69.9 17.5	Pass Pass Pass Pass Pass Pass	Result
Location Identifier: WT-AC-03-131 Sample Identifier 2002496  Chemical Name  1,1,1-Trichloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethane 1,2-Dichloropropane 2-Hexanone Acetone Benzene Bromodichloromethane	72  05/30/2002 18:1  Reported Concentration 30 38 ND<5.0 ND<5.0 ND<5.0 92 28 ND<20 54 40	Qualifiers U U U	R.L 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5	M.D.L. 0.184 0.243 0.175 0.228 0.274 0.288 0.234 1.88 2.65 0.184 0.172	uation - Units ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	Wate Dil. 1	Lab. PREM PREM PREM PREM PREM PREM PREM PREM	Lab. Number E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15	Reference 25.8 37.1 55.9 93.1 31.9 51.7 37.9	Upper Limit 31.5 49.5 70.5 114 43.6 62.9 48.5	Lower Limit 18.1 26.1 42.1 69.9 17.5 39.1 29.4	Pass Pass Pass Pass Pass Pass Pass	Result
Location Identifier: WT-AC-03-131 Sample Identifier 2002496  Chemical Name  1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloropropane 2-Hexanone Acetone Benzene Bromodichloromethane Bromoform	72  05/30/2002 18:1  Reported Concentration 30 38 ND<5.0 ND<5.0 ND<5.0 56 92 28 ND<20 54 40 42	Qualifiers  U U U U	R.L 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5	M.D.L. 0.184 0.243 0.175 0.228 0.274 0.288 0.234 1.88 2.65 0.184 0.172 0.127	uation - Units ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	Wate Dil. 1	Lab. PREM PREM PREM PREM PREM PREM PREM PREM	Lab. Number E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15	Reference 25.8 37.1 55.9 93.1 31.9 51.7 37.9	Upper Limit 31.5 49.5 70.5 114 43.6 62.9 48.5	Lower Limit 18.1 26.1 42.1 69.9 17.5 39.1 29.4	Pass Pass Pass Pass Pass Pass Pass	Result
Location Identifier: WT-AC-03-131 Sample Identifier 2002496  Chemical Name  1,1,1-Trichloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethane 1,2-Dichloropropane 2-Hexanone Acetone Benzene Bromodichloromethane Bromoform Bromomethane	72  05/30/2002 18:1  Reported Concentration 30 38 ND<5.0 ND<5.0 ND<5.0 56 92 28 ND<20 54 40 42 ND<5.0	Qualifiers  U U U U	R.L 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5	M.D.L. 0.184 0.243 0.175 0.228 0.274 0.288 0.234 1.88 2.65 0.184 0.172 0.127 0.167	uation - Units ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	- Water Dil.  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	Lab. Number E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15 E205C82-15	Reference 25.8 37.1 55.9 93.1 31.9 51.7 37.9	Upper Limit 31.5 49.5 70.5 114 43.6 62.9 48.5	Lower Limit 18.1 26.1 42.1 69.9 17.5 39.1 29.4	Pass Pass Pass Pass Pass Pass Pass	Result



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										Loureir	o Engineer	ing Ass	sociates, Inc.
Chloroethane	ND<5.0	U	5.0	0.525	ug/l	1		E205C82-15	20.6	24.4			
Chloroform	33		5.0	0.226	ug/l	1		E205C82-15	29.6	36.6	22.3	Pass	
Chloromethane	ND<5.0	U	5.0	0.148	ug/l	l ·		E205C82-15	20.2	40.0	20.4	_	
Dibromochloromethane	38		5.0	0.156	ug/l	1		E205C82-15	39.3	49.2	29.6	Pass	
Ethylbenzene	32		5.0	0.176	ug/l 	l		E205C82-15	30.1	36.8	22.0	Pass	
Methyl Ethyl ketone (2-Butanone)	ND<10	U	10	1.94	ug/l	l		E205C82-15					
Methyl Isobutyl ketone (4-Methyl-2-Penta	ND<10	U	10	1.89	ug/l	1		E205C82-15				_	
Methylene Chloride	18		5.0	0.789	ug/l	1		E205C82-15	24.3	31.5	16.4	Pass	
Styrene	ND<5.0	U	5.0	0.170	ug/l	1		E205C82-15	•••	22.0		_	
Tetrachloroethylene (PCE)	18		5.0	0.171	ug/l	1		E205C82-15	20.1	23.9	12.9	Pass	
Toluene	41		5.0	0.188	ug/l	1		E205C82-15	40.2	48.3	30.3	Pass	
Trichloroethylene (TCE)	25		5.0	0.220	ug/l	1		E205C82-15	25.7	31.4	18.2	Pass	
Vinyl Chloride	50		5.0	0.111	ug/l	l		E205C82-15	40.0	60.5	20.5	Pass	
cis-1,3-Dichloropropene	ND<5.0	U	5.0	0.139	ug/l	1		E205C82-15					
m,p-Xylene (Sum of Isomers)	49		5.0	0.424	ug/l	1		E205C82-15	46.2	57.7	32.2	Pass	
o-Xylene (1,2-Dimethylbenzene)	56		5.0	0.171	ug/l	1		E205C82-15	53.1	66.3	37.0	Pass	
trans-1,3-Dichloropropene	ND<5.0	U	5.0	0.0680	ug/l	l	PREM	E205C82-15					
: 11 .: WE AC 02 122													
Location Identifier: WT-AC-03-132	06/10/2002 14.2	£ D	c	P		337-4							
Sample Identifier 2002506	06/10/2002 14:3	5 Per	forman	ce Eval	uation ·	Wate	er						
	06/10/2002 14:3 Reported Concentration	5 Per Qualifiers	forman R.L.			Wate Dil.	er Lab.	Lab. Number	Reference	Upper Limit	Lower Limi	t	Result
Sample Identifier 2002506	Reported						Lab.	Lab. Number E206410-4	Reference	Upper Limit	Lower Limi	t	Result
Sample Identifier 2002506  Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units		Lab. PREM		Reference	Upper Limit	Lower Limi	it	Result
Sample Identifier 2002506  Chemical Name  PCB-1016 (Arochlor 1016)	Reported Concentration ND<0.40	Qualifiers U	R.L. 0.40	M.D.L.	Units ug/l	Dil.	Lab. PREM PREM	E206410-4	Reference	Upper Limit	Lower Limi	t	Result
Sample Identifier 2002506  Chemical Name  PCB-1016 (Arochlor 1016) PCB-1221 (Arochlor 1221)	Reported Concentration ND<0.40 ND<0.40	Qualifiers U U	R.L. 0.40 0.40	M.D.L. 0.120 0.120	Units ug/l ug/l	Dil. 1 1	Lab. PREM PREM PREM	E206410-4 E206410-4	Reference	Upper Limit	Lower Limi	it .	Result
Sample Identifier   2002506	Reported Concentration ND<0.40 ND<0.40 ND<0.40	Qualifiers U U U	R.L. 0.40 0.40 0.40	M.D.L. 0.120 0.120 0.120	Units ug/l ug/l ug/l	Dil. 1 1	Lab. PREM PREM PREM PREM	E206410-4 E206410-4 E206410-4	Reference	Upper Limit	Lower Limi	t	Result
Sample Identifier 2002506  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)  PCB-1242 (Arochlor 1242)	Reported Concentration ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40	Qualifiers U U U U	R.L. 0.40 0.40 0.40 0.40	M.D.L. 0.120 0.120 0.120 0.120	Units  ug/l  ug/l  ug/l  ug/l	Dil. 1 1 1 1	PREM PREM PREM PREM PREM	E206410-4 E206410-4 E206410-4 E206410-4	Reference	Upper Limit	Lower Limi	Pass	Result
Sample Identifier 2002506  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)  PCB-1242 (Arochlor 1242)  PCB-1248 (Arochlor 1248)	Reported Concentration ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40	Qualifiers U U U U	R.L. 0.40 0.40 0.40 0.40 0.40	M.D.L. 0.120 0.120 0.120 0.120 0.120	Units  ug/l  ug/l  ug/l  ug/l  ug/l	Dil.  1 1 1 1 1	PREM PREM PREM PREM PREM PREM	E206410-4 E206410-4 E206410-4 E206410-4 E206410-4					Result
Sample Identifier 2002506  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)  PCB-1242 (Arochlor 1242)  PCB-1248 (Arochlor 1248)  PCB-1254 (Arochlor 1254)  PCB-1260 (Arochlor 1260)	Reported Concentration ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40	Qualifiers U U U U U U	R.L. 0.40 0.40 0.40 0.40 0.40 0.40	M.D.L. 0.120 0.120 0.120 0.120 0.120 0.120	Units  ug/l ug/l ug/l ug/l ug/l ug/l	Dil.  1 1 1 1 1	PREM PREM PREM PREM PREM PREM	E206410-4 E206410-4 E206410-4 E206410-4 E206410-4 E206410-4					Result
Sample Identifier 2002506  Chemical Name  PCB-1016 (Arochlor 1016)  PCB-1221 (Arochlor 1221)  PCB-1232 (Arochlor 1232)  PCB-1242 (Arochlor 1242)  PCB-1248 (Arochlor 1248)  PCB-1254 (Arochlor 1254)	Reported Concentration ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40	Qualifiers U U U U U U U	R.L. 0.40 0.40 0.40 0.40 0.40 0.40	M.D.L. 0.120 0.120 0.120 0.120 0.120 0.120	Units  ug/l  ug/l  ug/l  ug/l  ug/l  ug/l  ug/l	Dil.  1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM	E206410-4 E206410-4 E206410-4 E206410-4 E206410-4 E206410-4					Result
Sample Identifier   2002506	Reported Concentration ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 2.4 ND<0.40 2.4 Reported Reported	Qualifiers U U U U U U U	R.L. 0.40 0.40 0.40 0.40 0.40 0.40	M.D.L. 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120	Units  ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/	Dil.  1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM	E206410-4 E206410-4 E206410-4 E206410-4 E206410-4 E206410-4	2.24		1.10	Pass	Result
Sample Identifier   2002506	Reported Concentration ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 2.4 ND<0.40  D6/13/2002 11:1 Reported Concentration	Qualifiers  U U U U U C Qualifiers	R.L. 0.40 0.40 0.40 0.40 0.40 0.40 0.40	M.D.L.  0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120 M.D.L.	Units  ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/	Dil.  1 1 1 1 1 1 1 1 1 1 Dil.	PREM PREM PREM PREM PREM PREM PREM PREM	E206410-4 E206410-4 E206410-4 E206410-4 E206410-4 E206410-4 Lab. Number	2.24	3.05	1.10	Pass	
Sample Identifier   2002506	Reported Concentration ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 2.4 ND<0.40  Reported Concentration ND<0.41	Qualifiers  U U U U U C Qualifiers U	R.L. 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0	M.D.L.  0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120	Units  ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/	Dil.  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E206410-4 E206410-4 E206410-4 E206410-4 E206410-4 E206410-4 Lab. Number	2.24	3.05	1.10	Pass	
Sample Identifier   2002506	Reported Concentration ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 2.4 ND<0.40  Concentration ND<0.41 ND<0.41	Qualifiers  U U U U U  Qualifiers  U U U	R.L.  0.40 0.40 0.40 0.40 0.40 0.40 0.40	M.D.L.  0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120	Units  ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/	Dil.  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E206410-4 E206410-4 E206410-4 E206410-4 E206410-4 E206410-4 E206410-4	2.24	3.05	1.10	Pass	
Sample Identifier   2002506	Reported Concentration ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 2.4 ND<0.40  Concentration ND<0.41 ND<0.41 ND<0.41 ND<0.41	Qualifiers  U U U U U  Qualifiers  U U U U	R.L.  0.40 0.40 0.40 0.40 0.40 0.40 0.40	M.D.L.  0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120	Units  ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/	Dil.  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Lab. PREM PREM PREM PREM PREM PREM PREM PREM	E206410-4 E206410-4 E206410-4 E206410-4 E206410-4 E206410-4 E206410-4 Lab. Number E206656-6 E206656-6 E206656-6	2.24	3.05	1.10	Pass	
Sample Identifier   2002506	Reported Concentration ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 ND<0.40 2.4 ND<0.40  Concentration ND<0.41 ND<0.41	Qualifiers  U U U U U  Qualifiers  U U U	R.L.  0.40 0.40 0.40 0.40 0.40 0.40 0.40	M.D.L.  0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120 0.120	Units  ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/	Dil.  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PREM PREM PREM PREM PREM PREM PREM PREM	E206410-4 E206410-4 E206410-4 E206410-4 E206410-4 E206410-4 E206410-4	2.24	3.05	1.10	Pass	



Page 76										Loureir	o Engineeri	ina As	sociates. In
PCB-1254 (Arochlor 1254) PCB-1260 (Arochlor 1260)	3.9 ND<0.41	U	0.41 0.41	0.120 0.120	ug/l ug/l	1		E206656-6 E206656-6	3.56	4.84	1.74	Pass	
· · · · · · · · · · · · · · · · · · ·			_										
Location Identifier: WT-AC-03-134 Sample Identifier 2002518	06/13/2002 11:2	0 Per	formar	nce Eval	uation	- Wate	r						
Chemical Name	Reported Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limi	t	Result
PCB-1016 (Arochlor 1016)	ND<0.41	U	0.41	0.120	ug/l	1	PREM	E206651-5					
PCB-1221 (Arochlor 1221)	ND<0.41	U	0.41	0.120	ug/l	ì	PREM	F206651-5					
PCB-1232 (Arochlor 1232)	ND<0.41	U	0.41	0.120	ug/l	1	PREM	E206651-5					
PCB-1242 (Arochlor 1242)	ND<0.41	U	0.41	0.120	ug/l	1	PREM	E206651-5					
PCB-1248 (Arochlor 1248)	ND<0.41	U	0.41	0.120	ug/l	1	PREM	E206651-5					
PCB-1254 (Arochlor 1254)	5.9		0.41	0.120	ug/l	1	PREM	E206651-5	5.90	8.91.	2.89	Pass	
PCB-1260 (Arochlor 1260)	ND<0.41	U	0.41	0.120	ug/l	1	PREM	E206651-5					
Location Identifier: WT-AC-03-135 Sample Identifier 2002520	06/13/2002 12:2	0 Per	formar	ice Eval	uation -	· Wate	:r						
	Reported						<b>.</b>						
Chemical Name	Concentration	Qualifiers	R.L.	M.D.L.	Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limi	t	Result
PCB-1016 (Arochlor 1016)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E206645-2					
PCB-1221 (Arochlor 1221)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E206645-2					
PCB-1232 (Arochlor 1232)	ND<0.40	IJ	0.40	0.120	ug/l	I	PREM	E206645-2					
PCB-1242 (Arochlor 1242)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E206645-2					
PCB-1248 (Arochlor 1248)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E206645-2					
PCB-1254 (Arochlor 1254)	8.1		0.40	0.120	ug/l	1	PREM	E206645-2	8.47	11.5	4.15	Pass	
PCB-1260 (Arochlor 1260)	115 0 10												
T CB-1200 (Allochiol 1200)	ND<0.40	U	0.40	0.120	ug/l	1	PREM	E206645-2					
		U	0.40	0.120	ug/l	1	PREM	E206645-2					
Location Identifier: WT-AC-03-154 Sample Identifier 2001904	ND<0.40 02/15/2002 13:4			0.120 ice Eval		· Wate		E206645-2					
Location Identifier: WT-AC-03-154					uation ·	Wate Dil.		E206645-2  Lab. Number	Reference	Upper Limit	Lower Limit	t	Result
Location Identifier: WT-AC-03-154 Sample Identifier 2001904	02/15/2002 13:4 Reported	0 Per	forman	ice Eval	uation ·		r Lab.		Reference	Upper Limit	Lower Limit	t	Result
Location Identifier: WT-AC-03-154 Sample Identifier 2001904 Chemical Name	02/15/2002 13:4  Reported  Concentration	0 Per	forman R.L.	ce Eval	uation -		r Lab PREM	Lab. Number	Reference	Upper Limit	Lower Limit	t	Result
Location Identifier: WT-AC-03-154 Sample Identifier 2001904 Chemical Name PCB-1016 (Arochlor 1016)	02/15/2002 13:4  Reported  Concentration  ND<0.41	0 Per Qualifiers	forman R.L. 0.41	M.D.L.	uation - Units ug/l	Dil.	r Lab PREM	Lab. Number E202576-10 E202576-10	Reference	Upper Limit	Lower Limit	t	Result
Location Identifier: WT-AC-03-154 Sample Identifier 2001904 Chemical Name PCB-1016 (Arochlor 1016) PCB-1221 (Arochlor 1221) PCB-1232 (Arochlor 1232)	02/15/2002 13:4  Reported  Concentration  ND<0.41  ND<0.41	0 Per Qualifiers U	R.L. 0.41 0.41	M.D.L. 0.120 0.120	Units ug/l ug/l	Dil.	r Lab. PREM PREM PREM	Lab. Number E202576-10 E202576-10	Reference	Upper Limit	Lower Limit	t .	Result
Location Identifier: WT-AC-03-154 Sample Identifier 2001904  Chemical Name  PCB-1016 (Arochlor 1016) PCB-1221 (Arochlor 1221) PCB-1232 (Arochlor 1232) PCB-1242 (Arochlor 1242)	02/15/2002 13:4  Reported Concentration ND<0.41 ND<0.41 ND<0.41	0 Per Qualifiers U U U	R.L.  0.41 0.41 0.41	M.D.L. 0.120 0.120 0.120	uation - Units ug/l ug/l ug/l ug/l	Dil.	r Lab. PREM PREM PREM PREM	Lab. Number E202576-10 E202576-10 E202576-10	Reference	Upper Limit	Lower Limit	t	Result
Location Identifier: WT-AC-03-154 Sample Identifier 2001904 Chemical Name PCB-1016 (Arochlor 1016) PCB-1221 (Arochlor 1221) PCB-1232 (Arochlor 1232)	02/15/2002 13:4  Reported Concentration ND<0.41 ND<0.41 ND<0.41 ND<0.41 ND<0.41	O Per Qualifiers U U U U	R.L. 0.41 0.41 0.41 0.41	M.D.L.  0.120 0.120 0.120 0.120 0.120	Units  Units  ug/l  ug/l  ug/l	Dil.	r Lab PREM PREM PREM PREM PREM	Lab. Number E202576-10 E202576-10 E202576-10 E202576-10	Reference		Lower Limit	Pass	Result



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Loureiro Engineering Associates, Inc.

Location Identifier: WT-AC-08-083 Sample Identifier 2001799	01/29/2002 13:10 Perf	formance Evaluation	Wat	er					
Chemical Name	Reported Qualifiers	R.L. M.D.L. Units	Dil.	Lab.	Lab. Number	Reference	Upper Limit	Lower Limit	Result
Arsenic	0.14	0.010 0 mg/L	1	PREM	E201A46-13	.151	.173	.130 Pa	ass
Barium	0.34	0.010 0.000680 mg/L	1	PREM	E201A46-13	.324	.358	.290 Pa	ass
Cadmium	0.031	0.0020 0.000320 mg/L	1	PREM	E201A46-13	.0339	.0378	.0300 Pa	ass
Chromium, Total	0.15	0.010 0.000740 mg/L	1	PREM	E201A46-13	.155	.172	.138 Pa	ass
Copper	0.10	0.010 0.000870 mg/L	1	PREM	E201A46-13	.104	.116	.092 Pa	ass
Lead	0.20	0.0040 0.00175 mg/L	1	PREM	E201A46-13	.209	.234	.183 Pa	ass
Mercury	0.0021	0.0002(0.000022 mg/L	1	PREM	E201A46-13	.00226	.00283	.00170 Pa	ass
Nickel	0.12	0.010 0.00108 mg/L	1	PREM	E201A46-13	.122	.135	.110 Pa	iss
Selenium	0.18	0.010 0.00460 mg/L	1	PREM	E201A46-13	.185	.212	.158 Pa	ass
Silver	0.24	0.0020 0.00627 mg/L	1	PREM	E201A46-13	.246	.276	.217 Pa	iss
Zinc	0.090	0.010 0.00198 mg/L	1	PREM	E201A46-13	.0912	.102	.0798 Pa	ass

# Appendix B

# Upper Willow Brook Pond Confirmatory Analytical Results and Data Validation Reports

The following reports are partial reports and do not include the referenced tables confirmatory analytical results as indicated. This information will be provided under separate cover upon request.



Loureiro Engineering Associates, Inc.

To:

Brian Cutler / LEA

From:

Tina Clemmey / LEA

DV Report Date:

04/24/02

Project Name:

Willow Brook Pond PCB Remediation

Sampled Date:

04/11/02

A Tier II data validation was performed on data for eight soil samples collected on April 11, 2002 for the Willow Brook Willow Pond PCB Remediation Project at Pratt & Whitney in East Hartford, Connecticut. The samples were collected from locations of the Site designated as WT-CS-02-071 through WT-CS-02-077. All samples were analyzed for PCBs by USEPA SW846 Method 8082.

One sample (2002381) was analyzed for Arsenic. A Tier II validation was performed on this sample. The sample was analyzed by USEPA SW846 Method 6010B, Trace Metals by ICP.

# **PCB Data Validation**

The samples were submitted to Premier Laboratory, LLC in Brooklyn, CT. Premier processed and reported this sample under Project 88UT002-103. The internal laboratory lot number for the PCB analyses is E204529 (batch 14519).

The sample results were assessed according to Region 1, EPA Data Validation Functional Guidelines for Evaluating Environmental Analyses: Pesticides / PCBs, July 1988. Additional guidance and logic was obtained from the Functional

Guidelines for Volatile / Semivolatile Data Validation Functional Guidelines, December 1996 when applicable. Technical judgement was also applied where applicable

The following tables have been included in this report: Table 1: Tier II Data Assessment, Table 2: Samples associated with the sample delivery group (SDG), Table 3: Summary of Data Validation Qualifiers applied to samples as a result of the validation, Table 4: Summary of Qualified Analytical Results.

An explanation of the validation decisions is presented below.

#### **SAMPLES**

Samples included in this review are listed in Table 2 of this report.

#### **PCB Data Validation**

## **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias. The frequency for performance evaluation samples for this project is one per twenty field samples.

A double blind aqueous performance evaluation sample was not submitted with this data set.

# Preservation and technical holding times

The validity of the analytical results is evaluated based on the preservation techniques used and the holding time of the sample, as appropriate.

The samples were extracted and analyzed within acceptable holding time. The sample temperature upon receipt was 2.5°C, which was within the acceptance limit of 4°C +/-2°C. No qualification is applied based on sample temperature due to the logistics of the sample transport process. Samples were collected at ambient temperature, placed in a cooler on ice and immediately transferred to the courier. The trip from the Site to the laboratory is generally completed in approximately one hour.

# Agreement with the Chain of Custody

The sample was shipped to Premier Laboratory under chain of custody on 04/11/02. The laboratory received the sample on 04/11/02. The sample was analyzed for PCBs by SW846 Method 8082. Validation of PCBs is discussed in this report. No discrepancies were noted.

# **Initial Calibration and Continuing Calibration**

Compliance requirements for initial and continuing calibrations are evaluated to ensure that the instruments are capable of producing acceptable qualitative and quantitative data.

Initial calibration curves were performed on GC4. Equal concentrations of a mixture of Aroclors 1016 and 1260 were used. Calibration factors were calculated at five concentrations. All percent relative standard deviations (%RSD) were less than 20%.

Continuing calibration verifications were performed on GC4. Each continuing calibration standard consisted of a mixture of Aroclors 1016 and 1260 and was performed at a single concentration. The percent drift (%D) was less than 15%. QC acceptance criteria were met for the continuing calibration.

#### Blanks

Blank analyses data is to determine the existence and magnitude of contamination problems resulting from laboratory and / or field activities and to subsequently assess their contribution to measurement error

No detects were reported in the method blank.

# **Surrogate Compounds**

Sample matrix effects and laboratory performance on individual samples are assessed by evaluating surrogate recovery. Poor surrogate recovery can be an indication of Interfering matrix effects, presence of high concentration target and/or non-target analytes, and poor laboratory performance.

Surrogates tetrachloro-m-xylene and decachlorobiphenyl were spiked into every sample. QC acceptance criteria could not be evaluated for percent recovery (%R) for both surrogates in the field samples 2002382 and 2002383, because the surrogates were diluted out due to elevated sample concentrations. Surrogates were within acceptance limits for other QC samples and blanks analyzed for PCBs.

### Matrix Spike / Matrix Spike Duplicate Analyses

Data for matrix spike / matrix spike duplicates were evaluated to determine laboratory precision and method bias for specific sample matrices.

The laboratory performed a PCB matrix spike / matrix spike duplicate (MS/MSD) analyses on LEA soil sample 2002381. Aroclor 1254 was spiked into the MS and MSD samples. All data were within acceptance limits for %R and RPD in the matrix spike / matrix spike duplicate sample.

# **Laboratory Control Sample**

Laboratory control samples are evaluated to assess the internal quality control of the laboratory's analytical method accuracy and method bias.

All QC acceptance criteria were met for percent recovery (%R) for the LCS sample.

# **Field Duplicate**

Samples 2002377 and 2002384 were submitted as a field duplicate pair. The results for Aroclor 1254 were 200 ug/kg and 180 ug/kg. The RPD is 11%, which represents acceptable field duplicate precision for soil samples.

# **Arsenic Data Validation**

#### **REVIEW OF ELEMENTS**

Sample data were reviewed for the following parameters:

- Matrix Spike
- Agreement with Chain of Custody
- Field Duplicates
- Preservation and Technical Holding Times
- Laboratory Duplicates

Calibration Verification

Laboratory Control Sample

Blanks

- Serial Dilution Results
- ICP Interference Check Sample
- Detection Limit Results

#### **DISCUSSION**

#### Performance Evaluation Data

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

A performance evaluation sample was not submitted with this data set.

# **Preservation and Holding Times**

The sample was properly preserved and analyzed within method-specified holding times.

#### **Calibration Verification**

Compliance requirements are evaluated to ensure that the instrument is capable of producing acceptable quantitative data.

All initial calibration verification (ICV) and continuing calibration verification (CCV) for all metals were analyzed at the appropriate frequency and were within control limits

#### **Blanks**

Blank analyses were assessed to determine the existence and magnitude of contamination problems.

All analytes were within acceptance limit for percent recovery for the lab fortified blank analyses. No detects were reported in the method blank.

# **ICP Interference Check Sample**

The ICP interference check sample is evaluated to verify the laboratory's interelement and background correction factors.

All data met the QC acceptance criteria.

# Matrix Spike / Matrix Spike Duplicate

The matrix spike sample was evaluated to provide information about the effect of the

sample matrix on the digestion and measurement methodology.

All analytes were within acceptance limits for % recovery (%R) and Relative Percent Difference (RPD) for the MS and MSD analyses.

# **Laboratory Duplicates**

All analytes were within acceptance limits for Relative Percent Difference for the laboratory duplicate analyses. Criteria for acceptable duplicate precision is less than 35% RPD for sample results that are greater than five times the CRDL and +/- 2X CRDL for sample results that are less than the five times the CRDL.

## **Field Duplicates**

Field duplicates were assessed to determine overall precision (i.e. field and laboratory precision).

A field duplicate was not submitted with this data set. Field duplicates are submitted at a frequency of one per twenty samples and are tracked on an on-going basis.

# **Laboratory Control Sample**

The laboratory control sample is evaluated to assess the efficiency of the digestion procedure.

The %R for arsenic was within acceptance limits for the LCS for arsenic.

# OVERALL EVALUATION OF THE DATA

The objective of the final evaluation of this data package is to identify the "analytical error" and any "sampling error" associated with the data. The sum of the "analytical error" and the "sampling error" equals the "measurement error." The end user should

use the "measurement error" in conjunction with sampling variability to determine "total error" (total uncertainty) associated with the data. Ultimately, the end user should assess data usability in the context of the pre-determined Data Quality Objectives (DQOs) and resultant "total error" of the data.

No data were qualified for PCBs or arsenic. All results were accepted as reported.

To the best of my knowledge, after thorough review of the attached sampling data and validation information, I believe that the data does show that the Performance Standards identified in the Remedial Action Work Plan have been met.

Authorized Pratt & Whitney Representative

Christia M. Clauny



# Loureiro Engineering Associates, Inc.

To:

Brian Cutler / LEA

From:

Tina Clemmey / LEA

DV Report Date:

04/18/02

Project Name:

Willow Brook Pond PCB Remediation

Sampled Date:

04/11/02

A Tier II data validation was performed on data for four soil samples collected on April 11, 2002 for the Willow Brook Willow Pond PCB Remediation Project at Pratt & Whitney in East Hartford, Connecticut. The samples were collected from locations of the Site designated as WT-CS-01-001 through WT-CS-01-004. All samples were analyzed for PCBs by USEPA SW846 Method 8082.

The sample was submitted to Premier Laboratory, LLC in Brooklyn, CT. Premier processed and reported this sample under Project 88UT002-103. The internal laboratory lot number associated with this sample delivery group is E204503 (batch 14455).

The sample results were assessed according to Region 1, EPA Data Validation Functional Guidelines for Evaluating Environmental Analyses: Pesticides / PCBs, July 1988. Additional guidance and logic was obtained from the Functional Guidelines for Volatile / Semivolatile Data Validation Functional Guidelines, December 1996 when applicable. Technical judgement was also applied where applicable

The following tables have been included in this report: Table 1: Tier II Data

Assessment, Table 2: Samples associated with the sample delivery group (SDG), Table 3: Summary of Data Validation Qualifiers applied to samples as a result of the validation, Table 4: Summary of Qualified Analytical Results.

An explanation of the validation decisions is presented below.

#### **SAMPLES**

Samples included in this review are listed in Table 2 of this report.

# **PCB ANALYSES**

#### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias. The frequency for performance evaluation samples for this project is one per twenty field samples.

A double blind aqueous performance evaluation sample was not submitted with this data set.

#### Preservation and technical holding times

The validity of the analytical results is evaluated based on the preservation techniques used and the holding time of the sample, as appropriate.

The samples were extracted and analyzed within acceptable holding time. The sample temperature upon receipt was 7°C, which was not within the acceptance limit of 4°C +/- 2°C. No qualification is applied based on sample temperature due to the logistics of the sample transport process. Samples were collected at ambient temperature, placed in a cooler on ice and immediately transferred to the courier. The trip from the

Site to the laboratory is generally completed in approximately one hour.

# Agreement with the Chain of Custody

The sample was shipped to Premier Laboratory under chain of custody on 04/11/02. The laboratory received the sample on 04/11/02. The sample was analyzed for PCBs by SW846 Method 8082. Validation of PCBs is discussed in this report. No discrepancies were noted.

# **Initial Calibration and Continuing Calibration**

Compliance requirements for initial and continuing calibrations are evaluated to ensure that the instruments are capable of producing acceptable qualitative and quantitative data.

Initial calibration curves were performed on GC4. Equal concentrations of a mixture of Aroclors 1016 and 1260 were used. Calibration factors were calculated at five concentrations. All percent relative standard deviations (%RSD) were less than 20%.

Continuing calibration verifications were performed on GC4. Each continuing calibration standard consisted of a mixture of Aroclors 1016 and 1260 and was performed at a single concentration. The percent drift (%D) was less than 15%. QC acceptance criteria were met for the continuing calibration.

#### Blanks

Blank analyses data is to determine the existence and magnitude of contamination problems resulting from laboratory and / or field activities and to subsequently assess their contribution to measurement error

No detects were reported in the method blank.

# **Surrogate Compounds**

Sample matrix effects and laboratory performance on individual samples are

assessed by evaluating surrogate recovery. Poor surrogate recovery can be an indication of Interfering matrix effects, presence of high concentration target and/or non-target analytes, and poor laboratory performance.

Surrogates tetrachloro-m-xylene and decachlorobiphenyl were spiked into every sample. QC acceptance criteria could not be evaluated for percent recovery (%R) for both surrogates in the field sample 2002373, because the surrogates were diluted out due to elevated sample concentrations. Surrogates were within acceptance limits for other QC samples and blanks analyzed for PCBs.

# Matrix Spike / Matrix Spike Duplicate Analyses

Data for matrix spike / matrix spike duplicates were evaluated to determine laboratory precision and method bias for specific sample matrices.

The laboratory performed a PCB matrix spike / matrix spike duplicate (MS/MSD) analyses on LEA soil sample 2002372. Aroclor 1254 was spiked into the MS and MSD samples. All data were qualified as Estimated (J) due to a high RPD in the matrix spike / matrix spike duplicate sample.

#### **Laboratory Control Sample**

Laboratory control samples are evaluated to assess the internal quality control of the laboratory's analytical method accuracy and method bias.

All QC acceptance criteria were met for percent recovery (%R) for the LCS sample.

### Field Duplicate

A field duplicate pair was not submitted with this data set.

#### OVERALL EVALUATION OF THE DATA

The objective of the final evaluation of this data package is to identify the "analytical error" and any "sampling error" associated with the data. The sum of the "analytical error" and the "sampling error" equals the "measurement error." The end user should use the "measurement error" in conjunction with sampling variability to determine "total error" (total uncertainty) associated with the data. Ultimately, the end user should assess data usability in the context of the pre-determined Data Quality Objectives (DQOs) and resultant "total error" of the data.

Aroclor 1254 was estimated in sample 2002372 due to a high RPD in the MS/MSD analyses. It should be noted that surrogates could not be evaluated in sample 2002373 in this data set due to elevated sample concentrations.

To the best of my knowledge, after thorough review of the attached sampling data and validation information, I believe that the data does show that the Performance Standards identified in the Remedial Action Work Plan have been met.

Christia M. Cleany

Authorized Pratt & Whitney Representative



# Loureiro Engineering Associates, Inc.

To:

Brian Cutler / LEA

From:

Tina Clemmey / LEA

DV Report Date:

04/22/02

Project Name:

Willow Brook Pond PCB Remediation

Sampled Date:

04/11/02

A Tier II data validation was performed on data for four soil samples collected on April 11, 2002 for the Willow Brook Willow Pond PCB Remediation Project at Pratt & Whitney in East Hartford, Connecticut. A trip blank (2002376) was included with the sample delivery group. The samples discussed in this validation memorandum were analyzed for VOCs by SW846 Method 8260B, SVOCs by SW846 Method 8270C, TPH by USEPA 418.1, Metals by SW846 Method 6010B and Cyanide by SW846 Method 9012. These parameters are herein referred to as the "other parameters." Validation for the samples submitted for PCBs by SW846 Method 8082 are presented in a separate validation report.

The samples were submitted to Premier Laboratory, LLC in Brooklyn, CT. Premier processed and reported these samples under Project 88UT103. The internal laboratory lot number associated with this sample delivery group is E204503.

The sample results were assessed according to Region 1, EPA Data Validation Functional Guidelines for Evaluating Environmental Analyses: Organic Data Review (December 1996), Pesticides / PCBs Data Review (July 1988) and Inorganic Data Review (February 1989) as appropriate. Chemistry parameters were validated using the same logic as presented in Region 1, EPA validation guidelines for other parameters where applicable. Since there is no official guidance at this time for

validating general chemistry analyses. Technical judgement was applied when applicable and necessary.

The following tables have been included in this report: Table I: Summary of Tier II Data Assessment, Table II Samples associated with the sample delivery group (SDG), Table III: Summary of Data Validation Qualifiers applied to samples as a result of the validation, and Table IV: Summary of Qualified Analytical Results.

An explanation of the validation decisions is presented below.

#### **SAMPLES**

Samples included in this review are listed in Table II of this report.

# **ORGANIC DATA REVIEW**

Organic data review includes review of analyses for volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs).

# **REVIEW OF ELEMENTS**

Sample data were reviewed for the following parameters:

- Performance Evaluation Sample Data
- Surrogate Compounds
- Agreement with Chain-of-Custody
- Internal Standards
- Preservation and Holding Time
- Matrix Spike / Matrix Spike Duplicate
- GC/MS Instrument Performance Check
- Laboratory Control Sample

- Initial and Continuing Calibration
- Practical Quantitation Limits

Blanks

Tentatively Identified compounds

#### **DISCUSSION**

# Agreement of Analyses with Chain of Custody

Sample reports are checked to verify that the reported results corresponded to analytical requests as detailed on the chain-of-custody record. The chain-of-custody form is reviewed for accuracy and completeness.

Samples were relinquished to Premier Laboratory, LLC under chain-of-custody on April 11, 2002. The laboratory received the samples April 11, 2002. During validation, the chain-of-custody form was reviewed for accuracy and completeness. No discrepancies were noted.

# **VOLATILE ORGANIC ANALYSES**

#### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

A performance evaluation sample was not submitted with this data set. PEs are submitted at a frequency of one per 20 samples and are tracked on an on-going basis.

### Preservation and technical holding times

The validity of the analytical results is evaluated based on the preservation techniques used and the holding time of the sample, as appropriate.

The sample cooler temperature recorded by the laboratory was  $7.0^{\circ}$ C. The QC acceptance limit for sample temperature is  $2^{\circ}$ C  $-6^{\circ}$ C. Samples were not qualified based on sample temperature since the time from sample collection to transport to receipt at the laboratory is very short. All samples were placed on ice and in addition, all VOC soil samples were preserved on site in methanol according to SW846 Method 5035. All samples were extracted and analyzed within method specified holding times.

#### **GC/MS Instrument Performance Check**

Gas chromatograph / mass spectrometer (GC/MS) instrument performance (tuning) checks are evaluated to ensure proper mass calibration and resolution, identification and to some degree sensitivity.

All ion abundance acceptance criteria specified in the methods for VOCs were met for each 12-hour period that samples were analyzed.

### **Initial and Continuing Calibration**

Compliance requirements for initial and continuing calibrations are evaluated to ensure that the instruments are capable of producing acceptable qualitative and quantitative data.

All VOC target compounds were within the QC acceptance criteria for the initial and continuing calibrations.

#### **Blanks**

Blank analyses data is to determine the existence and magnitude of contamination problems resulting from laboratory and / or field activities and to subsequently assess their contribution to measurement error

A trip blank (2002376) and the method blank were evaluated for contamination for VOCs. No detects were reported.

# **Surrogate Compounds**

Sample matrix effects and laboratory performance on individual samples are assessed by evaluating surrogate recovery. Poor surrogate recovery can be an indication of Interfering matrix effects, presence of high concentration target and/or non-target analytes, and poor laboratory performance.

QC acceptance criteria was met for percent recovery (%R) for surrogates in all of the field samples, QC samples and blanks analyzed for VOCs. No qualifications were made on the unspiked sample.

#### **Internal Standards**

Instrument performance, stability and laboratory precision are evaluated by assessing internal standard area count recovery and retention time drift.

All VOC data for the QC acceptance criteria were met for internal standard (IS) area counts and retention times.

#### Matrix Spike / Matrix Spike Duplicate Analyses

Data for matrix spike / matrix spike duplicates were evaluated to determine laboratory precision and method bias for specific sample matrices.

The laboratory performed a VOC matrix spike / matrix spike duplicate (MS/MSD) analyses on LEA soil sample 2002372. All data were within acceptance limits for % recovery (%R) and Relative Percent Difference (RPD) for the MS and MSD analyses.

# **Laboratory Control Sample**

Laboratory control samples are evaluated to assess the internal quality control of the laboratory's analytical method accuracy and method bias.

All data met the QC acceptance criteria for percent recovery for the VOC laboratory control sample(s).

# Field Duplicate

A field duplicate pair was not submitted with this data set.

# **Tentatively Identified Compounds**

No tentatively identified compounds were reported.

#### SEMIVOLATILE ORGANIC ANALYSES

# **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

A performance evaluation sample was not submitted with this data set. PEs are submitted at a frequency of one per 20 samples and are tracked on an on-going basis.

### Preservation and technical holding times

The validity of the analytical results is evaluated based on the preservation techniques used and the holding time of the sample, as appropriate.

The sample cooler temperature recorded by the laboratory was  $7.0^{\circ}$ C. The QC acceptance limit for sample temperature is  $2^{\circ}$ C  $-6^{\circ}$ C. Samples were not qualified based on sample temperature since the time from sample collection to transport to receipt at the laboratory is very short. All samples were extracted and analyzed within method specified holding times.

#### GC/MS Instrument Performance Check

Gas chromatograph / mass spectrometer (GC/MS) instrument performance (tuning) checks are evaluated to ensure proper mass calibration and resolution, identification and to some degree sensitivity.

All ion abundance acceptance criteria specified in the methods SVOCs were met for each 12-hour period that samples were analyzed.

#### **Initial and Continuing Calibration**

Compliance requirements for initial and continuing calibrations are evaluated to ensure that the instruments are capable of producing acceptable qualitative and quantitative data.

All SVOC target compounds were within the QC acceptance criteria for the initial and continuing calibrations.

#### **Blanks**

Blank analyses data is to determine the existence and magnitude of contamination problems resulting from laboratory and / or field activities and to subsequently assess their contribution to measurement error

The method blank was evaluated for contamination for SVOCs. No detects were reported.

# **Surrogate Compounds**

Sample matrix effects and laboratory performance on individual samples are assessed by evaluating surrogate recovery. Poor surrogate recovery can be an indication of Interfering matrix effects, presence of high concentration target and/or non-target analytes, and poor laboratory performance.

QC acceptance criteria was met for percent recovery (%R) for surrogates in all of the field samples, QC samples and blanks analyzed for SVOCs.

#### Internal Standards

Instrument performance, stability and laboratory precision are evaluated by assessing internal standard area count recovery and retention time drift.

All SVOC data for the QC acceptance criteria were met for internal standard (IS) area counts and retention times.

#### Matrix Spike / Matrix Spike Duplicate Analyses

Data for matrix spike / matrix spike duplicates were evaluated to determine laboratory precision and method bias for specific sample matrices.

The laboratory performed an SVOC matrix spike / matrix spike duplicate (MS/MSD) analyses on LEA soil sample 2002372. Bis(2-chloroisoethoxy)methane, bis(2-chloroisopropyl)ether, bis(2-chloroisoethyl)ether, 2-chlorophenol, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 2,4-dimethylphenol, hexachloroethane 2-methylphenol, nitrobenzene, and 2-nitrophenol were outside the QC RPD acceptance limits. Results in the unspiked sample were qualified

accordingly. Refer to attached validation tables for details of qualification decisions.

# **Laboratory Control Sample**

Laboratory control samples are evaluated to assess the internal quality control of the laboratory's analytical method accuracy and method bias.

All data met the QC acceptance criteria for percent recovery for the SVOC laboratory control samples.

# **Field Duplicate**

A field duplicate pair was not submitted with this data set.

# **Tentatively Identified Compounds**

No tentatively identified compounds were reported.

# **INORGANIC DATA REVIEW**

#### **REVIEW OF ELEMENTS**

Sample data were reviewed for the following parameters:

- Performance Evaluation Data
   Matrix Spike
- Agreement with Chain of Custody
   Field Duplicates
- Preservation and Technical Holding
   Laboratory Duplicates
   Times
  - Furnace AA / Post Digestion Spike
- Calibration Verification
   Laboratory Control Sample
- Blanks
   Serial Dilution Results

Detection Limit Results

#### DISCUSSION

#### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

A performance evaluation sample was not submitted with this data set. PEs are submitted at a frequency of one per 20 samples and are tracked on an on-going basis.

# **Preservation and Holding Times**

All samples were properly preserved and analyzed within method-specified holding times.

#### **Calibration Verification**

Compliance requirements are evaluated to ensure that the instrument is capable of producing acceptable quantitative data.

All initial calibration verification (ICV) and continuing calibration verification (CCV) for all metals were analyzed at the appropriate frequency and were within control limits

#### Lab Fortified Blanks

Blank analyses were assessed to determine the existence and magnitude of contamination problems.

All analytes were within acceptance limit for percent recovery for the lab fortified blank analyses.

# Matrix Spike / Matrix Spike Duplicate

The matrix spike sample was evaluated to provide information about the effect of the sample matrix on the digestion and measurement methodology.

A MS/MSD was performed on sample 2002372. All analytes were within acceptance limits for % recovery (%R) and Relative Percent Difference (RPD) for the MS and MSD analyses.

# **Laboratory Duplicates**

All analytes were within acceptance limits for Relative Percent Difference for the laboratory duplicate analyses. Criteria for acceptable duplicate precision is less than 35% RPD for sample results that are greater than five times the CRDL and +/- 2X CRDL for sample results that are less than the five times the CRDL.

#### **Field Duplicates**

Field duplicates were assessed to determine overall precision (i.e. field and laboratory precision).

A field duplicate pair was not submitted with this data set.

#### **Laboratory Control Sample**

The laboratory control sample is evaluated to assess the efficiency of the digestion procedure.

All data were within the QC acceptance criteria for LCS percent recovery (%R). All

affected data were qualified accordingly.

# **ICP Interference Check Sample**

All results were within QC acceptance limits for % recovery for the ICP Interference Check sample.

### **GENERAL CHEMISTRY DATA REVIEW**

General Chemistry data review includes review of analyses for Total Petroleum Hydrocarbons (TPH) and Cyanide. There are currently no Region 1 functional guidelines for data validation of general chemistry parameters. Therefore, general chemistry data are evaluated based upon the QC requirements specified in the method by which they were analyzed.

# **REVIEW OF ELEMENTS**

Sample data were reviewed for the following parameters:

- Performance Evaluation Sample Data
- Agreement with Chain of Custody
- Preservation and Holding Time
- Initial Calibration Verification
- Continuing Calibration Verification
- Blanks

- Matrix Spike
- Field Duplicates
- Laboratory Duplicates
- Laboratory Control Sample
- Detection Limit Results

**DISCUSSION** 

#### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

A performance evaluation sample was not submitted with this data set. PEs are submitted at a frequency of one per 20 samples and are tracked on an on-going basis.

# **Preservation and Holding Times**

All samples analyzed for TPH and cyanide were extracted within method-specified holding times.

#### **Initial Calibration Verification**

The initial calibrations were analyzed at the appropriate frequency. The correlation coefficient for the initial calibration curve for TPH was greater than 0.9950. The %RSD was less than 20%. All initial calibration QC acceptance criteria were met for Cyanide.

#### **Continuing Calibration Verification**

The continuing calibrations were analyzed at the appropriate frequency. The %D was below 15% for the continuing calibration analyses for TPH. All QC acceptance criteria were met for continuing calibrations for cyanide.

#### Blanks

No detects were reported in the associated method blanks for TPH and cyanide. All QC acceptance criteria for the blanks were acceptable

# Matrix Spike

The MS / MSD was performed on sample 2002372. All data were within QC acceptance limits for TPH and cyanide.

# **Field Duplicate**

A field duplicate pair was not submitted with this data set.

# **Laboratory Duplicate**

Laboratory precision was demonstrated through laboratory duplicate analysis. All sample duplicate results were within QC acceptance limits for duplicate RPD.

# **Laboratory Control Sample**

All QC acceptance criteria were met for LCS for TPH and cyanide.

## OVERALL EVALUATION OF THE DATA

The objective of the final evaluation of this data package is to identify the "analytical error" and any "sampling error" associated with the data. The sum of the "analytical error" and the "sampling error" equals the "measurement error." The end user should use the "measurement error" in conjunction with sampling variability to determine "total error" (total uncertainty) associated with the data. The data in this data package have been qualified as rejected (R) or estimated (J) depending upon the degree of analytical and / or sampling error. Ultimately, the end user should assess data usability in the context of the pre-determined Data Quality Objectives (DQOs) and resultant "total error" of the data.

Some SVOC data were qualified based on high RPD in the MS/MSD results.

To the best of my knowledge, after thorough review of the attached sampling data and validation information, I believe that the data does show that the Performance Standards identified in Remedial Action Work Plan have been met.

Chartine M. Classing

Authorized Pratt & Whitney Representative



## Loureiro Engineering Associates, Inc.

To:

Brian Cutler / LEA

From:

Tina Clemmey / LEA

DV Report Date:

04/12/02

Project Name:

Willow Brook Pond PCB Remediation

Sampled Date:

04/09/02

A Tier II data validation was performed on data for five soil samples collected on April 09, 2002 for the Willow Brook Willow Pond PCB Remediation Project at Pratt & Whitney in East Hartford, Connecticut. The samples were collected from locations of the Site designated as WT-CS-02-065 through WT-CS-02070. All samples were analyzed for PCBs by USEPA SW846 Method 8082.

The sample was submitted to Premier Laboratory, LLC in Brooklyn, CT. Premier processed and reported this sample under Project 88UT002-103. The internal laboratory lot number associated with this sample delivery group is E204450 (batch 14416).

The sample results were assessed according to Region 1, EPA Data Validation Functional Guidelines for Evaluating Environmental Analyses: Pesticides / PCBs, July 1988. Additional guidance and logic was obtained from the Functional Guidelines for Volatile / Semivolatile Data Validation Functional Guidelines, December 1996 when applicable. Technical judgement was also applied where applicable

The following tables have been included in this report: Table 1: Tier II Data

Assessment, Table 2: Samples associated with the sample delivery group (SDG), Table 3: Summary of Data Validation Qualifiers applied to samples as a result of the validation, Table 4: Summary of Qualified Analytical Results.

An explanation of the validation decisions is presented below.

#### **SAMPLES**

Samples included in this review are listed in Table 2 of this report.

## PCB ANALYSES

### Performance Evaluation Data

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias. The frequency for performance evaluation samples for this project is one per twenty field samples.

A double blind aqueous performance evaluation sample was not submitted with this data set.

### Preservation and technical holding times

The validity of the analytical results is evaluated based on the preservation techniques used and the holding time of the sample, as appropriate.

The samples were extracted and analyzed within acceptable holding time. The sample temperature upon receipt was 4°C, which was within the acceptance limit of 4°C +/-2°C. No qualification is applied based on sample temperature due to the logistics of the sample transport process. Samples were collected at ambient temperature, placed in a cooler on ice and immediately transferred to the courier. The trip from the Site to

the laboratory is generally completed in approximately one hour.

# Agreement with the Chain of Custody

The sample was shipped to Premier Laboratory under chain of custody on 04/09/02. The laboratory received the sample on 04/10/02. The sample was analyzed for PCBs by SW846 Method 8082. Validation of PCBs is discussed in this report. No discrepancies were noted.

## **Initial Calibration and Continuing Calibration**

Compliance requirements for initial and continuing calibrations are evaluated to ensure that the instruments are capable of producing acceptable qualitative and quantitative data.

Initial calibration curves were performed on GC4. Equal concentrations of a mixture of Aroclors 1016 and 1260 were used. Calibration factors were calculated at five concentrations. All percent relative standard deviations (%RSD) were less than 20%.

Continuing calibration verifications were performed on GC4. Each continuing calibration standard consisted of a mixture of Aroclors 1016 and 1260 and was performed at a single concentration. The percent drift (%D) was less than 15%. QC acceptance criteria were met for the continuing calibration.

### **Blanks**

Blank analyses data is to determine the existence and magnitude of contamination problems resulting from laboratory and / or field activities and to subsequently assess their contribution to measurement error

No detects were reported in the method blank.

## **Surrogate Compounds**

Sample matrix effects and laboratory performance on individual samples are

assessed by evaluating surrogate recovery. Poor surrogate recovery can be an indication of Interfering matrix effects, presence of high concentration target and/or non-target analytes, and poor laboratory performance.

Surrogates tetrachloro-m-xylene and decachlorobiphenyl were spiked into every sample. QC acceptance criteria could not be evaluated for percent recovery (%R) for both surrogates in all of the following field samples: 2002367, 2002368, 2002369, and 2002370 and for the MS and MSD analyses because the surrogates were diluted out due to elevated sample concentrations. Surrogates were within acceptance limits for other QC samples and blanks analyzed for PCBs.

## Matrix Spike / Matrix Spike Duplicate Analyses

Data for matrix spike / matrix spike duplicates were evaluated to determine laboratory precision and method bias for specific sample matrices.

The laboratory performed a PCB matrix spike / matrix spike duplicate (MS/MSD) analyses on LEA soil sample 2002367. Aroclor 1254 was spiked into the MS and MSD samples. Percent recovery and relative percent difference were not evaluated since the unspiked sample required a 50X dilution. All data were accepted as reported in the unspiked sample.

### **Laboratory Control Sample**

Laboratory control samples are evaluated to assess the internal quality control of the laboratory's analytical method accuracy and method bias.

All QC acceptance criteria were met for percent recovery (%R) for the LCS sample.

## Field Duplicate

A field duplicate pair was not submitted with this data set.

### OVERALL EVALUATION OF THE DATA

The objective of the final evaluation of this data package is to identify the "analytical error" and any "sampling error" associated with the data. The sum of the "analytical error" and the "sampling error" equals the "measurement error." The end user should use the "measurement error" in conjunction with sampling variability to determine "total error" (total uncertainty) associated with the data. Ultimately, the end user should assess data usability in the context of the pre-determined Data Quality Objectives (DQOs) and resultant "total error" of the data.

No data were qualified. It should be noted that surrogates could not be evaluated in several samples in this data set due to elevated sample concentrations. It should also be noted that the MS/MSD could not be evaluated for the same reason.

To the best of my knowledge, after thorough review of the attached sampling data and validation information, I believe that the data does show that the Performance Standards identified in the Remedial Action Work Plan have been met.

Authorized Pratt & Whitney Representative

Christia M. Cleany



## Loureiro Engineering Associates, Inc.

To:

Brian Cutler / LEA

From:

Tina Clemmey / LEA

DV Report Date:

04/19/02

Project Name:

Willow Brook Pond PCB Remediation

Sampled Date:

04/09/02

A Tier II data validation was performed on data for two soil samples collected on April 9, 2002 for the Willow Brook Willow Pond PCB Remediation Project at Pratt & Whitney in East Hartford, Connecticut. A trip blank (2002371) was included with the sample delivery group. The samples discussed in this validation memorandum were analyzed for VOCs by SW846 Method 8260B, SVOCs by SW846 Method 8270C, TPH by USEPA 418.1, Metals by SW846 Method 6010B and Cyanide by SW846 Method 9012. These parameters are herein referred to as the "other parameters." Validation for the samples submitted for PCBs by SW846 Method 8082 are presented in a separate validation report.

The samples were submitted to Premier Laboratory, LLC in Brooklyn, CT. Premier processed and reported these samples under Project 88UT103. The internal laboratory lot number associated with this sample delivery group is E204450.

The sample results were assessed according to Region 1, EPA Data Validation Functional Guidelines for Evaluating Environmental Analyses: Organic Data Review (December 1996), Pesticides / PCBs Data Review (July 1988) and Inorganic Data Review (February 1989) as appropriate. Chemistry parameters were validated using the same logic as presented in Region 1, EPA validation guidelines for other parameters where applicable. Since there is no official guidance at this time for

validating general chemistry analyses. Technical judgement was applied when applicable and necessary.

The following tables have been included in this report: Table I: Summary of Tier II Data Assessment, Table II Samples associated with the sample delivery group (SDG), Table III: Summary of Data Validation Qualifiers applied to samples as a result of the validation, and Table IV: Summary of Qualified Analytical Results.

An explanation of the validation decisions is presented below.

### **SAMPLES**

Samples included in this review are listed in Table II of this report.

## ORGANIC DATA REVIEW

Organic data review includes review of analyses for volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs).

# **REVIEW OF ELEMENTS**

Sample data were reviewed for the following parameters:

- Performance Evaluation Sample Data
- Surrogate Compounds
- Agreement with Chain-of-Custody
- Internal Standards
- Preservation and Holding Time
- Matrix Spike / Matrix Spike Duplicate
- GC/MS Instrument Performance Check
- Laboratory Control Sample

- Initial and Continuing Calibration
- Practical Quantitation Limits

Blanks

Tentatively Identified compounds

### DISCUSSION

## Agreement of Analyses with Chain of Custody

Sample reports are checked to verify that the reported results corresponded to analytical requests as detailed on the chain-of-custody record. The chain-of-custody form is reviewed for accuracy and completeness.

Samples were relinquished to Premier Laboratory, LLC under chain-of-custody on April 9, 2002. The laboratory received the samples April 9, 2002. During validation, the chain-of-custody form was reviewed for accuracy and completeness. No discrepancies were noted.

### **VOLATILE ORGANIC ANALYSES**

### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

A performance evaluation sample was not submitted with this data set. PEs are submitted at a frequency of one per 20 samples and are tracked on an on-going basis.

## Preservation and technical holding times

The validity of the analytical results is evaluated based on the preservation techniques used and the holding time of the sample, as appropriate.

The sample cooler temperatures recorded by the laboratory were  $4.0^{\circ}$ C. The QC acceptance limit for sample temperature is  $2^{\circ}$ C  $-6^{\circ}$ C. Samples were not qualified based on sample temperature since the time from sample collection to transport to receipt at the laboratory is very short. All samples were placed on ice and in addition, all VOC soil samples were preserved on site in methanol according to SW846 Method 5035. All samples were extracted and analyzed within method specified holding times.

### **GC/MS Instrument Performance Check**

Gas chromatograph / mass spectrometer (GC/MS) instrument performance (tuning) checks are evaluated to ensure proper mass calibration and resolution, identification and to some degree sensitivity.

All ion abundance acceptance criteria specified in the methods for VOCs were met for each 12-hour period that samples were analyzed.

## **Initial and Continuing Calibration**

Compliance requirements for initial and continuing calibrations are evaluated to ensure that the instruments are capable of producing acceptable qualitative and quantitative data.

All VOC target compounds were within the QC acceptance criteria for the initial and continuing calibrations.

#### **Blanks**

Blank analyses data is to determine the existence and magnitude of contamination problems resulting from laboratory and / or field activities and to subsequently assess their contribution to measurement error

A trip blank (2002371) and the method blank were evaluated for contamination for VOCs. No detects were reported.

## **Surrogate Compounds**

Sample matrix effects and laboratory performance on individual samples are assessed by evaluating surrogate recovery. Poor surrogate recovery can be an indication of Interfering matrix effects, presence of high concentration target and/or non-target analytes, and poor laboratory performance.

QC acceptance criteria was met for percent recovery (%R) for surrogates in all of the field samples, QC samples and blanks analyzed for VOCs. No qualifications were made on the unspiked sample.

### **Internal Standards**

Instrument performance, stability and laboratory precision are evaluated by assessing internal standard area count recovery and retention time drift.

All VOC data for the QC acceptance criteria were met for internal standard (IS) area counts and retention times.

### Matrix Spike / Matrix Spike Duplicate Analyses

Data for matrix spike / matrix spike duplicates were evaluated to determine laboratory precision and method bias for specific sample matrices.

The laboratory performed a VOC matrix spike / matrix spike duplicate (MS/MSD) analyses on LEA soil sample 2002368. All data were within acceptance limits for % recovery (%R) and Relative Percent Difference (RPD) for the MS and MSD analyses.

## **Laboratory Control Sample**

Laboratory control samples are evaluated to assess the internal quality control of the laboratory's analytical method accuracy and method bias.

All data met the QC acceptance criteria for percent recovery for the VOC laboratory control sample(s).

## **Field Duplicate**

A field duplicate pair was not submitted with this data set.

## **Tentatively Identified Compounds**

No tentatively identified compounds were reported.

### SEMIVOLATILE ORGANIC ANALYSES

#### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

A performance evaluation sample was not submitted with this data set. PEs are submitted at a frequency of one per 20 samples and are tracked on an on-going basis.

## Preservation and technical holding times

The validity of the analytical results is evaluated based on the preservation techniques used and the holding time of the sample, as appropriate.

The sample cooler temperatures recorded by the laboratory were  $4.0^{\circ}$ C. The QC acceptance limit for sample temperature is  $2^{\circ}$ C  $-6^{\circ}$ C. Samples were not qualified based on sample temperature since the time from sample collection to transport to receipt at the laboratory is very short. All samples were extracted and analyzed within method specified holding times.

### **GC/MS Instrument Performance Check**

Gas chromatograph / mass spectrometer (GC/MS) instrument performance (tuning) checks are evaluated to ensure proper mass calibration and resolution, identification and to some degree sensitivity.

All ion abundance acceptance criteria specified in the methods SVOCs were met for each 12-hour period that samples were analyzed.

### **Initial and Continuing Calibration**

Compliance requirements for initial and continuing calibrations are evaluated to ensure that the instruments are capable of producing acceptable qualitative and quantitative data.

All SVOC target compounds were within the QC acceptance criteria for the initial and continuing calibrations.

#### **Blanks**

Blank analyses data is to determine the existence and magnitude of contamination problems resulting from laboratory and / or field activities and to subsequently assess their contribution to measurement error

The method blank was evaluated for contamination for SVOCs. No detects were reported.

## **Surrogate Compounds**

Sample matrix effects and laboratory performance on individual samples are assessed by evaluating surrogate recovery. Poor surrogate recovery can be an indication of Interfering matrix effects, presence of high concentration target and/or non-target analytes, and poor laboratory performance.

QC acceptance criteria was met for percent recovery (%R) for surrogates in all of the field samples, QC samples and blanks analyzed for SVOCs.

### **Internal Standards**

Instrument performance, stability and laboratory precision are evaluated by assessing internal standard area count recovery and retention time drift.

All SVOC data for the QC acceptance criteria were met for internal standard (IS) area counts and retention times.

### Matrix Spike / Matrix Spike Duplicate Analyses

Data for matrix spike / matrix spike duplicates were evaluated to determine laboratory precision and method bias for specific sample matrices.

The laboratory performed an SVOC matrix spike / matrix spike duplicate (MS/MSD) analyses on LEA soil sample 2002368. Benzo(b)fluoroanthene, benzo(k)fluoroanthene, bis(2-chloroisopropyl)ether, bis(2-chloroisoethyl)ether, benzo(g,h,i)perylene, di-n-octyl phthalate, 2,4-dinitrotoluene, 4-chloroaniline, 3,3-dichlorobenzidine, flourene, 4-nitrophenol, hexachlorocyclopentadiene, 2-methyl-4,6-dinitrophenol, 3-nitroaniline, and 4-nitroaniline, were outside QC % recovery and

RPD acceptance limits. Results in the unspiked sample were qualified accordingly. Refer to attached validation tables for details of qualification decisions.

## **Laboratory Control Sample**

Laboratory control samples are evaluated to assess the internal quality control of the laboratory's analytical method accuracy and method bias.

All data met the QC acceptance criteria for percent recovery for the SVOC laboratory control samples.

## **Field Duplicate**

A field duplicate pair was not submitted with this data set.

## **Tentatively Identified Compounds**

No tentatively identified compounds were reported.

## **INORGANIC DATA REVIEW**

### REVIEW OF ELEMENTS

Sample data were reviewed for the following parameters:

- Performance Evaluation Data 

  Matrix Spike
- Agreement with Chain of Custody
   Field Duplicates
- Preservation and Technical Holding
   Laboratory Duplicates
   Times
  - Furnace AA / Post Digestion Spike
- Calibration Verification
   Laboratory Control Sample
- BlanksSerial Dilution Results

Detection Limit Results

### **DISCUSSION**

#### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

A performance evaluation sample was not submitted with this data set. PEs are submitted at a frequency of one per 20 samples and are tracked on an on-going basis.

## **Preservation and Holding Times**

All samples were properly preserved and analyzed within method-specified holding times.

### **Calibration Verification**

Compliance requirements are evaluated to ensure that the instrument is capable of producing acceptable quantitative data.

All initial calibration verification (ICV) and continuing calibration verification (CCV) for all metals were analyzed at the appropriate frequency and were within control limits

#### Lab Fortified Blanks

Blank analyses were assessed to determine the existence and magnitude of contamination problems.

All analytes were within acceptance limit for percent recovery for the lab fortified blank analyses.

# Matrix Spike / Matrix Spike Duplicate

The matrix spike sample was evaluated to provide information about the effect of the sample matrix on the digestion and measurement methodology.

A MS/MSD was performed on sample 2002368. Mercury, barium, chromium, copper, lead, nickel, and zinc were outside QC % recovery and/or RPD acceptance limits. Results in the affected samples were qualified accordingly. Refer to attached validation tables for details of qualification decisions.

## **Laboratory Duplicates**

All analytes were within acceptance limits for Relative Percent Difference for the laboratory duplicate analyses. Criteria for acceptable duplicate precision is less than 35% RPD for sample results that are greater than five times the CRDL and +/- 2X CRDL for sample results that are less than the five times the CRDL.

### **Field Duplicates**

Field duplicates were assessed to determine overall precision (i.e. field and laboratory precision).

A field duplicate pair was not submitted with this data set.

### **Laboratory Control Sample**

The laboratory control sample is evaluated to assess the efficiency of the digestion procedure.

All data were within the QC acceptance criteria for LCS percent recovery (%R), with the exception of lead (76.6%) and selenium (66.4%), which were outside the QC acceptance limits (80-120%). All affected data were qualified accordingly. Refer to attached validation tables for details of qualification decisions.

# **ICP Interference Check Sample**

All results were within QC acceptance limits for % recovery for the ICP Interference Check sample.

# GENERAL CHEMISTRY DATA REVIEW

General Chemistry data review includes review of analyses for Total Petroleum Hydrocarbons (TPH) and Cyanide. There are currently no Region 1 functional guidelines for data validation of general chemistry parameters. Therefore, general chemistry data are evaluated based upon the QC requirements specified in the method by which they were analyzed.

#### REVIEW OF ELEMENTS

Sample data were reviewed for the following parameters:

- Performance Evaluation Sample Data
- Agreement with Chain of Custody
- Preservation and Holding Time
- Initial Calibration Verification
- Continuing Calibration Verification
- Blanks

- Matrix Spike
- Field Duplicates
- Laboratory Duplicates
- Laboratory Control Sample
- Detection Limit Results

### DISCUSSION

### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

A performance evaluation sample was not submitted with this data set. PEs are submitted at a frequency of one per 20 samples and are tracked on an on-going basis.

## **Preservation and Holding Times**

All samples analyzed for TPH and cyanide were extracted within method-specified holding times.

#### **Initial Calibration Verification**

The initial calibrations were analyzed at the appropriate frequency. The correlation coefficient for the initial calibration curve for TPH was greater than 0.9950. The %RSD was less than 20%. All initial calibration QC acceptance criteria were met for Cyanide.

# **Continuing Calibration Verification**

The continuing calibrations were analyzed at the appropriate frequency. The %D was below 15% for the continuing calibration analyses for TPH. All QC acceptance criteria were met for continuing calibrations for cyanide.

### **Blanks**

No detects were reported in the associated method blanks for TPH and cyanide. All QC acceptance criteria for the blanks were acceptable

### Matrix Spike

The MS / MSD was performed on sample 2002368. All data were within QC acceptance limits for cyanide. TPH was qualified based on high MS/MSD % recovery. Refer to attached validation tables for details of qualification decisions.

### Field Duplicate

A field duplicate pair was not submitted with this data set.

## **Laboratory Duplicate**

Laboratory precision was demonstrated through laboratory duplicate analysis. All sample duplicate results were within QC acceptance limits for duplicate RPD.

# **Laboratory Control Sample**

All QC acceptance criteria were met for LCS for TPH. Cyanide (123.0%) was not within the QC acceptance limits (80-120%). Refer to attached validation tables for details of qualification decisions

### OVERALL EVALUATION OF THE DATA

The objective of the final evaluation of this data package is to identify the "analytical error" and any "sampling error" associated with the data. The sum of the "analytical error" and the "sampling error" equals the "measurement error." The end user should use the "measurement error" in conjunction with sampling variability to determine "total error" (total uncertainty) associated with the data. The data in this data package have been qualified as rejected (R) or estimated (J) depending upon the degree of analytical and / or sampling error. Ultimately, the end user should assess data usability in the context of the pre-determined Data Quality Objectives (DQOs) and resultant "total error" of the data.

Some SVOC and Metal data were qualified based on high / low % recovery, and / or high RPD in the MS/MSD results. Lead and selenium were qualified due to low LCS % recovery. TPH was qualified due to high MS/MSD % recovery. Cyanide was qualified due to high LCS % recovery.

To the best of my knowledge, after thorough review of the attached sampling data and validation information, I believe that the data does show that the Performance Standards identified in Remedial Action Work Plan have been met.

Christia N. Clerry

Authorized Pratt & Whitney Representative



# Loureiro Engineering Associates, Inc.

To:

Brian Cutler / LEA
Tina Clemmey / LEA

From: DV Report Date:

01/07/02

Project Name:

Willow Brook Pond PCB Remediation

Sampled Date:

12/12/01

A Tier II data validation was performed on data for five soil samples collected on December 12, 2001 for the Willow Brook Willow Pond PCB Remediation Project at Pratt & Whitney in East Hartford, Connecticut. The samples were collected from locations of the Site designated as WT-CS-02-059 through WT-CS-02-063. All samples were analyzed for PCBs by USEPA SW846 Method 8082.

The samples were submitted to Premier Laboratory, LLC in Brooklyn, CT. Premier processed and reported these samples under Project 88UT002-103. The internal laboratory lot number associated with this sample delivery group is E112489 (batch 12036).

The sample results were assessed according to Region 1, EPA Data Validation Functional Guidelines for Evaluating Environmental Analyses: Pesticides / PCBs, July 1988. Additional guidance and logic was obtained from the Functional Guidelines for Volatile / Semivolatile Data Validation Functional Guidelines, December 1996 when applicable. Technical judgement was also applied where applicable

The following tables have been included in this report: Table 1: Tier II Data

Assessment, Table 2: Samples associated with the sample delivery group (SDG), Table 3: Summary of Data Validation Qualifiers applied to samples as a result of the validation, Table 4: Summary of Qualified Analytical Results.

An explanation of the validation decisions is presented below.

### **SAMPLES**

Samples included in this review are listed in Table 2 of this report.

### **PCB ANALYSES**

#### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias. The frequency for performance evaluation samples for this project is one per twenty field samples.

A performance evaluation sample was not submitted with this data set.

## Preservation and technical holding times

The validity of the analytical results is evaluated based on the preservation techniques used and the holding time of the sample, as appropriate.

The samples were extracted and analyzed within acceptable holding time. The sample temperature upon receipt was 13.7°C, which was not within the acceptance limit of 4°C +/- 2°C. No qualification was applied based on sample temperature due to the logistics of the sample transport process. Samples were collected at ambient temperature, placed in a cooler on ice and immediately transferred to the courier. The trip from the Site to the laboratory is generally completed in approximately one hour.

## Agreement with the Chain of Custody

Six samples were shipped to Premier Laboratory under chain of custody on 12/12/01. The samples were analyzed for PCBs by SW846 Method 8082. Samples were also submitted for "other" constituents. Validation of PCBs is discussed in this report. The validation of the "other" constituents is discussed under separate cover. No discrepancies were noted.

## **Initial Calibration and Continuing Calibration**

Compliance requirements for initial and continuing calibrations are evaluated to ensure that the instruments are capable of producing acceptable qualitative and quantitative data.

Initial calibration curves were performed on GC8. Equal concentrations of a mixture of Aroclors 1016 and 1260 were used. Calibration factors were calculated at five concentrations. All percent relative standard deviations (%RSD) were less than 20%.

Continuing calibration verifications were performed on GC8. Each continuing calibration standard consisted of a mixture of Aroclors 1016 and 1260 and was performed at a single concentration. The percent drift (%D) was less than 15%. QC acceptance criteria were met for the continuing calibration.

### **Blanks**

Blank analyses data is to determine the existence and magnitude of contamination problems resulting from laboratory and / or field activities and to subsequently assess their contribution to measurement error

No detects were reported in the method blank.

# **Surrogate Compounds**

Sample matrix effects and laboratory performance on individual samples are assessed by evaluating surrogate recovery. Poor surrogate recovery can be

an indication of Interfering matrix effects, presence of high concentration target and/or non-target analytes, and poor laboratory performance.

Surrogates tetrachloro-m-xylene and decachlorobiphenyl were spiked into every sample. QC acceptance criteria was met for percent recovery (%R) for both surrogates in all of the field samples, QC samples and blanks analyzed for PCBs.

## Matrix Spike / Matrix Spike Duplicate Analyses

Data for matrix spike / matrix spike duplicates were evaluated to determine laboratory precision and method bias for specific sample matrices.

A matrix spike / matrix spike duplicate was performed on sample 2001494 with this data set. Percent recovery and relative percent difference were within acceptance limits. All data were accepted as reported in the unspiked sample.

# **Laboratory Control Sample**

Laboratory control samples are evaluated to assess the internal quality control of the laboratory's analytical method accuracy and method bias.

All QC acceptance criteria were met for percent recovery (%R) for the LCS samples.

### Field Duplicate

No field duplicates were submitted with this data set.

## OVERALL EVALUATION OF THE DATA

The objective of the final evaluation of this data package is to identify the "analytical error" and any "sampling error" associated with the data. The sum of the "analytical error" and the "sampling error" equals the "measurement error." The end user should

use the "measurement error" in conjunction with sampling variability to determine "total error" (total uncertainty) associated with the data. Ultimately, the end user should assess data usability in the context of the pre-determined Data Quality Objectives (DQOs) and resultant "total error" of the data.

No data were qualified.

To the best of my knowledge, after thorough review of the attached sampling data and validation information, I believe that the data does show that the Performance Standards identified in the Remedial Action Work Plan have been met.

Authorized Pratt & Whitney Representative

Christia M. Cleany



# Loureiro Engineering Associates, Inc.

To:

Brian Cutler / LEA

From:

Tina Clemmey / LEA

Sample Date: DV Date:

12/12/01 01/15/02

Project Name: Willow Brook Pond PCB Remediation

DV Report for Other Parameters

A Tier II data validation was performed on data for five soil samples collected on December 12, 2001 for the Willow Brook Willow Pond PCB Remediation Project at Pratt & Whitney in East Hartford, Connecticut. The samples discussed in this validation memorandum were analyzed for VOCs by SW846 Method 8260B, SVOCs by SW846 Method 8270C, TPH by USEPA 418.1, Metals by SW846 Method 6010B and Cyanide by SW846 Method 9012. These parameters are herein referred to as the "other parameters." Validation for the samples submitted for PCBs by SW846 Method 8082 are presented in a separate validation report.

The samples were submitted to Premier Laboratory, LLC in Brooklyn, CT. Premier processed and reported these samples under Project 88UT103. The internal laboratory lot number associated with this sample delivery group is E112489.

The sample results were assessed according to Region 1, EPA Data Validation Functional Guidelines for Evaluating Environmental Analyses: Organic Data Review (December 1996), Pesticides / PCBs Data Review (July 1988) and Inorganic Data Review (February 1989) as appropriate. Chemistry parameters were validated using the same logic as presented in Region 1, EPA validation guidelines for other parameters where applicable. Since there is no official guidance at this time for validating general chemistry analyses. Technical judgement was applied when applicable and necessary.

The following tables have been included in this report: Table I: Summary of Tier II Data Assessment, Table II Samples associated with the sample delivery group (SDG), Table III: Summary of Data Validation Qualifiers applied to samples as a result of the validation, and Table IV: Summary of Qualified Analytical Results.

An explanation of the validation decisions is presented below.

### **SAMPLES**

Samples included in this review are listed in Table II of this report.

# **ORGANIC DATA REVIEW**

Organic data review includes review of analyses for volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs).

### **REVIEW OF ELEMENTS**

Sample data were reviewed for the following parameters:

- Performance Evaluation Sample Data
- Agreement with Chain-of-Custody
- Preservation and Holding Time
- GC/MS Instrument Performance Check
- Initial and Continuing Calibration

- Surrogate Compounds
- Internal Standards
- Matrix Spike / Matrix Spike Duplicate
- Laboratory Control Sample
- Practical Quantitation Limits

Tentatively Identified compounds

# Blanks

### **DISCUSSION**

## Agreement of Analyses with Chain of Custody

Sample reports are checked to verify that the reported results corresponded to analytical requests as detailed on the chain-of-custody record. The chain-of-custody form is reviewed for accuracy and completeness.

Five soil samples were relinquished to Premier Laboratory, LLC under chain-of-custody on December 12, 2002. The laboratory received the samples on January 4, 2002. During validation, the chain-of-custody form was reviewed for accuracy and completeness. No discrepancies were noted.

## **VOLATILE ORGANIC ANALYSES**

### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

A performance evaluation sample was not submitted with this data set. PEs are submitted at a frequency of one per 20 samples and are tracked on an on-going basis.

### Preservation and technical holding times

The validity of the analytical results is evaluated based on the preservation techniques used and the holding time of the sample, as appropriate.

The sample cooler temperature recorded by the laboratory was  $13.7^{\circ}$ C. The QC acceptance limit for sample temperature is  $2^{\circ}$ C  $-6^{\circ}$ C. Samples were not qualified based on sample temperature since the time from sample collection to transport to receipt at the laboratory is very short. All samples were placed on ice and in addition, all VOC soil samples were preserved on site in methanol according to SW846 Method 5035. All samples were extracted and analyzed within method specified holding times.

### GC/MS Instrument Performance Check

Gas chromatograph / mass spectrometer (GC/MS) instrument performance (tuning) checks are evaluated to ensure proper mass calibration and resolution, identification and to some degree sensitivity.

All ion abundance acceptance criteria specified in the methods for VOCs were met for each 12-hour period that samples were analyzed.

## **Initial and Continuing Calibration**

Compliance requirements for initial and continuing calibrations are evaluated to ensure that the instruments are capable of producing acceptable qualitative and quantitative data.

The following tables summarize VOC compounds that were outside QC acceptance criteria for the initial and continuing calibrations:

### **Initial Calibration for VOCs**

All VOC target compounds were within acceptance limits.

## **Continuing Calibration for VOCs**

The following table summarizes VOC target compounds that did not meet acceptance criteria:

Compound	RRF or linear regression	%D	Positive detects	NDs	Affected samples		
Chloroethane		38.2	J	J	All .		

All affected results were qualified accordingly.

### **Blanks**

Blank analyses data is to determine the existence and magnitude of contamination problems resulting from laboratory and / or field activities and to subsequently assess their contribution to measurement error

The method blank was evaluated for contamination for VOCs. No detects were reported.

# **Surrogate Compounds**

Sample matrix effects and laboratory performance on individual samples are assessed by evaluating surrogate recovery. Poor surrogate recovery can be an indication of Interfering matrix effects, presence of high concentration target and/or non-target analytes, and poor laboratory performance.

QC acceptance criteria was met for percent recovery (%R) for surrogates in all of the field samples, QC samples and blanks analyzed for VOCs.

### **Internal Standards**

Instrument performance, stability and laboratory precision are evaluated by assessing internal standard area count recovery and retention time drift.

All internal standard area counts and retention times were within acceptance limits.

# Matrix Spike / Matrix Spike Duplicate Analyses

Data for matrix spike / matrix spike duplicates were evaluated to determine laboratory precision and method bias for specific sample matrices.

The laboratory performed a VOC matrix spike / matrix spike duplicate (MS/MSD) analyses on LEA soil sample 2001494 (Batch 12035). The following table summarizes data, which did not meet QC acceptance criteria:

Compound	%Rec MS	%Rec MSD	QC limits	RPD	Positive detects	NDs	Bias	Affected Samples
Chloroethane	56	54	50-147		J	J	Low	2001494

There were no detects reported in the unspiked sample. All affected data were qualified accordingly.

### **Laboratory Control Sample**

Laboratory control samples are evaluated to assess the internal quality control of the laboratory's analytical method accuracy and method bias.

The laboratory control samples were within acceptance limits.

## Field Duplicate

A field duplicate pair was not submitted with this data set.

## **Tentatively Identified Compounds**

No tentatively identified compounds were reported.

## SEMIVOLATILE ORGANIC ANALYSES

#### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

A performance evaluation sample was not submitted with this data set. PEs are submitted at a frequency of one per 20 samples and are tracked on an on-going basis.

## Preservation and technical holding times

The validity of the analytical results is evaluated based on the preservation techniques used and the holding time of the sample, as appropriate.

The sample cooler temperature recorded by the laboratory was  $13.7^{\circ}$ C. The QC acceptance limit for sample temperature is  $2^{\circ}$ C  $-6^{\circ}$ C. Samples were not qualified based on sample temperature since the time from sample collection to transport to receipt at the laboratory is very short. All samples were placed on ice during transport. All samples were extracted and analyzed within method specified holding times.

#### **GC/MS Instrument Performance Check**

Gas chromatograph / mass spectrometer (GC/MS) instrument performance (tuning) checks are evaluated to ensure proper mass calibration and resolution, identification and to some degree sensitivity.

All ion abundance acceptance criteria specified in the methods SVOCs were met for

each 12-hour period that samples were analyzed.

## **Initial and Continuing Calibration**

Compliance requirements for initial and continuing calibrations are evaluated to ensure that the instruments are capable of producing acceptable qualitative and quantitative data.

All SVOC target compounds were within the QC acceptance criteria for the initial and continuing calibrations.

### **Blanks**

Blank analyses data is to determine the existence and magnitude of contamination problems resulting from laboratory and / or field activities and to subsequently assess their contribution to measurement error

All method blanks were evaluated for contamination for SVOCs. No detects were reported.

### **Surrogate Compounds**

Sample matrix effects and laboratory performance on individual samples are assessed by evaluating surrogate recovery. Poor surrogate recovery can be an indication of Interfering matrix effects, presence of high concentration target and/or non-target analytes, and poor laboratory performance.

QC acceptance criteria was met for percent recovery (%R) for surrogates in all of the field samples, QC samples and blanks analyzed for SVOCs.

### **Internal Standards**

Instrument performance, stability and laboratory precision are evaluated by

assessing internal standard area count recovery and retention time drift.

All internal standard area counts and retention times were within acceptance limits.

# Matrix Spike / Matrix Spike Duplicate Analyses

Data for matrix spike / matrix spike duplicates were evaluated to determine laboratory precision and method bias for specific sample matrices.

The laboratory performed an SVOC matrix spike / matrix spike duplicate (MS/MSD) analyses on LEA soil sample 2001494. The following table summarizes data, which did not meet QC acceptance criteria:

Compound	%Rec MS	%Rec MSD	QC limits	RPD	RPD limits	Positive detects	NDs	Bias	Affected Samples
Benzo(a)anthracene	15		23-166	80	72	J	J	Low	2001494
Benzo(b)fluoranthene	19		28-176			J	J	Low	2001494
Benzo(k)fluoroanthene	24		28-172			Ј	J	Low	2001494
Chrysene	16		22-169			J	J	Low	2001494
Fluoranthene	15		16-192	575	24	J	J	Low	2001494
2-Nitroaniline	0	0	25-100			J	R	Low	2001494
3-Nitroaniline	0	0	17-98			J	R	Low	2001494
Phenanthrene	4.8		15-174	174	80	J	J	Low	2001494

Pyrene	5.5	-	20-160	286	70	J	J	Low	2001494
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All affected data were qualified accordingly.

# **Laboratory Control Sample**

Laboratory control samples are evaluated to assess the internal quality control of the laboratory's analytical method accuracy and method bias.

The laboratory control samples were within acceptance limits.

# Field Duplicate

A field duplicate pair was not submitted with this data set.

# **Tentatively Identified Compounds**

No tentatively identified compounds were reported.

## **INORGANIC DATA REVIEW**

### **REVIEW OF ELEMENTS**

Sample data were reviewed for the following parameters:

- Performance Evaluation Data
- Agreement with Chain of Custody
- Preservation and Technical Holding Times
- Calibration Verification

- Matrix Spike
- Field Duplicates
- Laboratory Duplicates
- Furnace AA / Post Digestion Spike
- Laboratory Control Sample

Blanks

- Serial Dilution Results
- ICP Interference Check Sample
- Detection Limit Results

### **DISCUSSION**

#### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

A performance evaluation sample was not submitted with this data set. PEs are submitted at a frequency of one per 20 samples and are tracked on an on-going basis.

## **Preservation and Holding Times**

All samples were properly preserved and analyzed within method-specified holding times.

### Calibration Verification

Compliance requirements are evaluated to ensure that the instrument is capable of producing acceptable quantitative data.

All initial calibration verification (ICV) and continuing calibration verification (CCV) for all metals were analyzed at the appropriate frequency and were within control limits

### Lab Fortified Blanks

Blank analyses were assessed to determine the existence and magnitude of contamination problems.

All analytes were within acceptance limit for percent recovery for the lab fortified blank analyses.

# **ICP Interference Check Sample**

The ICP interference check sample is evaluated to verify the laboratory's interelement and background correction factors.

All data met the QC acceptance criteria.

# Matrix Spike / Matrix Spike Duplicate

The matrix spike sample was evaluated to provide information about the effect of the sample matrix on the digestion and measurement methodology.

A MS/MSD was performed on sample 2001494. All analytes were within acceptance limits for % recovery (%R) and Relative Percent Difference (RPD) for the MS and MSD analyses.

### **Laboratory Duplicates**

All analytes were within acceptance limits for Relative Percent Difference for the laboratory duplicate analyses. Criteria for acceptable duplicate precision is less than 35% RPD for sample results that are greater than five times the CRDL and +/- 2X CRDL for sample results that are less than the five times the CRDL.

# **Field Duplicates**

Field duplicates were assessed to determine overall precision (i.e. field and

laboratory precision).

A field duplicate pair was not submitted with this data set.

# **Laboratory Control Sample**

The laboratory control sample is evaluated to assess the efficiency of the digestion procedure.

The following table summarizes data that did not meet acceptance criteria (80-120%) for percent recovery (%R) criteria:

Analyte	%R	%R Range	Detects	Non-detects	Samples affected
Barium	124.0	80-120	J	A	All Mass metal samples
Selenium	65.7	80-120	J	UJ	All Mass metal samples
Arsenic	135.4	80-120	J	A	All SPLP metal samples
Nickel	79.9	80-120	J	UJ	All SPLP metal samples
Lead	127.4	80-120	J	UJ	All SPLP metal samples

All data were qualified accordingly.

# **GENERAL CHEMISTRY DATA REVIEW**

General Chemistry data review includes review of analyses for Total Petroleum Hydrocarbons (TPH). There are currently no Region 1 functional guidelines for data validation of general chemistry parameters. Therefore, general chemistry data are evaluated based upon the QC requirements specified in the method by which they

were analyzed.

#### **REVIEW OF ELEMENTS**

Sample data were reviewed for the following parameters:

- Performance Evaluation Sample Data
- Agreement with Chain of Custody
- Preservation and Holding Time
- Initial Calibration Verification
- Continuing Calibration Verification
- Blanks

- Matrix Spike
- Field Duplicates
- Laboratory Duplicates
- Laboratory Control Sample
- Detection Limit Results

### **DISCUSSION**

### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

A performance evaluation sample was not submitted with this data set. PEs are submitted at a frequency of one per 20 samples and are tracked on an on-going basis.

### **Preservation and Holding Times**

All samples analyzed for TPH were extracted within method-specified holding times.

### **Initial Calibration Verification**

The initial calibration was analyzed at the appropriate frequency. All initial calibration QC acceptance criteria were met.

# **Continuing Calibration Verification**

The continuing calibrations were analyzed at the appropriate frequency. The %Rs were within +/- 10% for all continuing calibration analyses. All QC acceptance criteria were met.

#### **Blanks**

No positive detects were reported in the associated method blanks. All QC acceptance criteria for the blanks were acceptable.

# Matrix Spike

A MS / MSD was performed on sample 2001494 and was within QC acceptance limits for %R and RPD for TPH.

# **Field Duplicate**

A few duplicate pair was not submitted with this data set. Field duplicates were submitted at a frequency of one per twenty samples and are tracked on an on-going basis.

# **Laboratory Control Sample**

All QC acceptance criteria were met for LCS for TPH.

# OVERALL EVALUATION OF THE DATA

The objective of the final evaluation of this data package is to identify the "analytical error" and any "sampling error" associated with the data. The sum of the "analytical error" and the "sampling error" equals the "measurement error." The end user should use the "measurement error" in conjunction with sampling variability to determine "total error" (total uncertainty) associated with the data. The data in this data package have been qualified as rejected (R) or estimated (J) depending upon the degree of analytical and / or sampling error. Ultimately, the end user should assess data usability in the context of the pre-determined Data Quality Objectives (DQOs) and resultant "total error" of the data.

Chloroethane was qualified as estimated based on low percent recovery for the MS / MSD analyses, and due to high %D in the continuing calibration. Some SVOC compounds were qualified as estimated or rejected based on low percent recovery and high RPD for the MS/MSD analyses. Barium and Selenium results were qualified as estimated based on low/high percent recovery for the LCS sample for mass metals. Arsenic, Nickel and Lead were qualified as estimated based on low/high percent recovery for the LCS sample for SPLP metals. A description of the qualified sample results are outlined in Tables 3 and 4 specific to each parameter and are attached to this validation report.

To the best of my knowledge, after thorough review of the attached sampling data and validation information, I believe that the data does show that the Performance Standards identified in Paragraph 16 of the Partial Consent Decree Relating to Multiple Parties, Performance of Remedial Work and Cost Recovery have been met.

Authorized Pratt & Whitney Representative

Christia M. Cleuny



# Loureiro Engineering Associates, Inc.

To:

Brian Cutler / LEA

From:

Tina Clemmey / LEA

DV Report Date:

12/07/01

Project Name:

Willow Brook Pond PCB Remediation

Sampled Date:

12/05/01

A Tier II data validation was performed on data for five soil samples collected on December 04, 2001 for the Willow Brook Willow Pond PCB Remediation Project at Pratt & Whitney in East Hartford, Connecticut. The samples were collected from locations of the Site designated as WT-CS-03-044 through WT-CS-03-048. All samples were analyzed for PCBs by USEPA SW846 Method 8082.

The samples were submitted to Premier Laboratory, LLC in Brooklyn, CT. Premier processed and reported these samples under Project 88UT002-103. The internal laboratory lot number associated with this sample delivery group is E112079 (batch 11789).

The sample results were assessed according to Region 1, EPA Data Validation Functional Guidelines for Evaluating Environmental Analyses: Pesticides / PCBs, July 1988. Additional guidance and logic was obtained from the Functional Guidelines for Volatile / Semivolatile Data Validation Functional Guidelines, December 1996 when applicable. Technical judgement was also applied where applicable

The following tables have been included in this report: Table 1: Tier II Data

Assessment, Table 2: Samples associated with the sample delivery group (SDG), Table 3: Summary of Data Validation Qualifiers applied to samples as a result of the validation, Table 4: Summary of Qualified Analytical Results.

An explanation of the validation decisions is presented below.

#### **SAMPLES**

Samples included in this review are listed in Table 2 of this report.

# **PCB ANALYSES**

#### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias. The frequency for performance evaluation samples for this project is one per twenty field samples.

A double blind aqueous performance evaluation sample (2001440) was submitted with this data set. The PE sample was prepared by Environmental Resource Associates (ERA). The ERA lot number associated with this sample was 1129-01-02.2. Aroclor 1254 was spiked into the sample at a concentration of 7.73 ug/l. The performance acceptance limit was 3.96-10.2 ug/l. The laboratory reported a concentration of 6.0 ug/l. QC acceptance criteria were met. Performance data is presented in Attachment 1 of this report.

### Preservation and technical holding times

The validity of the analytical results is evaluated based on the preservation techniques used and the holding time of the sample, as appropriate.

The samples were extracted and analyzed within acceptable holding time. The sample temperature upon receipt was 11°C, which was outside the acceptance limit of 4°C +/-2°C. No qualification was applied based on sample temperature due to the logistics of the sample transport process. Samples were collected at ambient temperature, placed in a cooler on ice and immediately transferred to the courier. The trip from the Site to the laboratory is generally completed in approximately one hour. Since the process from sample collection to receipt at the laboratory happens over a short time period, the ambient temperature samples do not have sufficient time to reach 4°C. This issue does not impact data usability.

## Agreement with the Chain of Custody

Seven samples were shipped to Premier Laboratory under chain of custody on 12/04/01. The samples were analyzed for PCBs by SW846 Method 8082. Samples were also submitted for "other" constituents. Validation of PCBs is discussed in this report. The validation of the "other" constituents is discussed under separate cover. No discrepancies were noted.

### **Initial Calibration and Continuing Calibration**

Compliance requirements for initial and continuing calibrations are evaluated to ensure that the instruments are capable of producing acceptable qualitative and quantitative data.

Initial calibration curves were performed on GC4. Equal concentrations of a mixture of Aroclors 1016 and 1260 were used. Calibration factors were calculated at five concentrations. All percent relative standard deviations (%RSD) were less than 20%.

Continuing calibration verifications were performed on GC4. Each continuing calibration standard consisted of a mixture of Aroclors 1016 and 1260 and was performed at a single concentration. The percent drift (%D) was less than 15%. QC acceptance criteria were met for the continuing calibration.

#### **Blanks**

Blank analyses data is to determine the existence and magnitude of

contamination problems resulting from laboratory and / or field activities and to subsequently assess their contribution to measurement error

No detects were reported in the method blank.

# **Surrogate Compounds**

Sample matrix effects and laboratory performance on individual samples are assessed by evaluating surrogate recovery. Poor surrogate recovery can be an indication of Interfering matrix effects, presence of high concentration target and/or non-target analytes, and poor laboratory performance.

Surrogates tetrachloro-m-xylene and decachlorobiphenyl were spiked into every sample. QC acceptance criteria was met for percent recovery (%R) for both surrogates in all of the field samples, QC samples and blanks analyzed for PCBs.

# Matrix Spike / Matrix Spike Duplicate Analyses

Data for matrix spike / matrix spike duplicates were evaluated to determine laboratory precision and method bias for specific sample matrices.

A matrix spike / matrix spike duplicate was performed on sample 2001435 with this data set. Percent recovery and relative percent difference were within acceptance limits for the MS. A high % recovery was reported for the MSD. Since the LCS was within acceptance limits and no detects were reported in the unspiked sample, this issue did not impact data usability. All data were accepted as reported in the unspiked sample.

## **Laboratory Control Sample**

Laboratory control samples are evaluated to assess the internal quality control of the laboratory's analytical method accuracy and method bias.

All QC acceptance criteria were met for percent recovery (%R) for the LCS samples.

# **Field Duplicate**

No field duplicates were submitted with this data set.

# OVERALL EVALUATION OF THE DATA

The objective of the final evaluation of this data package is to identify the "analytical error" and any "sampling error" associated with the data. The sum of the "analytical error" and the "sampling error" equals the "measurement error." The end user should use the "measurement error" in conjunction with sampling variability to determine "total error" (total uncertainty) associated with the data. Ultimately, the end user should assess data usability in the context of the pre-determined Data Quality Objectives (DQOs) and resultant "total error" of the data.

No data were qualified.

To the best of my knowledge, after thorough review of the attached sampling data and validation information, I believe that the data does show that the Performance Standards identified in the Remedial Action Work Plan have been met.

Authorized Pratt & Whitney Representative

Chrotine M. Clerry



# Loureiro Engineering Associates, Inc.

To:

Brian Cutler / LEA

From:

Tina Clemmey / LEA

DV Report Date:

01/30/02

Project Name:

Willow Brook Pond PCB Remediation

Sampled Date:

12/04/01

A Tier II data validation was performed on data for three soil samples and a trip blank (2001439) collected on December 4, 2001 for the Willow Brook Willow Pond PCB Remediation Project at Pratt & Whitney in East Hartford, Connecticut. Additional samples were submitted with this SDG for PCB analysis. Validation of the PCB data was performed and submitted as a separate validation report. This validation report consists of data for VOCs (8260B), SVOCs (8270C), TPH (418.1), Metals (6010B) and Cyanide (9012), herein referred to as "other" parameters.

The samples were submitted to Premier Laboratory, LLC in Brooklyn, CT. Premier processed and reported these samples under Project 88UT103. The internal laboratory lot number associated with this sample delivery group is E112079.

The sample results were assessed according to Region 1, EPA Data Validation Functional Guidelines for Evaluating Environmental Analyses: Organic Data Review (December 1996), Pesticides / PCBs Data Review (July 1988) and Inorganic Data Review (February 1989) as appropriate. Where there was a lack of guidance for other parameters, the same logic as presented in Region 1, EPA validation guidelines for similar parameters / methodologies were used where applicable. Technical judgement was applied when applicable and necessary.

The following tables have been included in this report: Table I: Summary of Tier II Data Assessment, Table II Samples associated with the sample delivery group (SDG), Table III: Summary of Data Validation Qualifiers applied to samples as a result of the validation, and Table IV: Summary of Qualified Analytical Results.

An explanation of the validation decisions is presented below.

### **SAMPLES**

Samples included in this review are listed in Table II of this report.

# ORGANIC DATA REVIEW

Organic data review includes review of analyses for volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs).

### **REVIEW OF ELEMENTS**

Sample data were reviewed for the following parameters:

- Performance Evaluation Sample Data
- Surrogate Compounds
- Agreement with Chain-of-Custody
- Internal Standards
- Preservation and Holding Time
- Matrix Spike / Matrix Spike Duplicate
- GC/MS Instrument Performance Check
- Laboratory Control Sample
- Initial and Continuing Calibration
- Practical Quantitation Limits

Tentatively Identified compounds

# Blanks

#### DISCUSSION

# Agreement of Analyses with Chain of Custody

Sample reports are checked to verify that the reported results corresponded to analytical requests as detailed on the chain-of-custody record. The chain-of-custody form is reviewed for accuracy and completeness.

Samples were relinquished to Premier Laboratory, LLC under chain-of-custody on December 4, 2001. The laboratory received the samples on December 4, 2001. During validation, the chain-of-custody form was reviewed for accuracy and completeness. No discrepancies were noted.

### **VOLATILE ORGANIC ANALYSES**

#### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

A performance evaluation sample was not submitted with this data set. PEs are submitted at a frequency of one per 20 samples and are tracked on an on-going basis.

# Preservation and technical holding times

The validity of the analytical results is evaluated based on the preservation techniques used and the holding time of the sample, as appropriate.

The sample cooler temperature recorded by the laboratory was  $11.0^{\circ}$ C. The QC acceptance limit for sample temperature is  $2^{\circ}$ C  $-6^{\circ}$ C. Samples were not qualified based on sample temperature since the time from sample collection to transport to receipt at the laboratory is very short. All samples were placed on ice and in addition, all VOC soil samples were preserved on site in methanol according to SW846 Method 5035. All samples were extracted and analyzed within method specified holding times.

#### GC/MS Instrument Performance Check

Gas chromatograph / mass spectrometer (GC/MS) instrument performance (tuning) checks are evaluated to ensure proper mass calibration and resolution, identification and to some degree sensitivity.

All ion abundance acceptance criteria specified in the methods for VOCs were met for each 12-hour period that samples were analyzed.

# **Initial and Continuing Calibration**

Compliance requirements for initial and continuing calibrations are evaluated to ensure that the instruments are capable of producing acceptable qualitative and quantitative data.

All VOC target compounds were within the QC acceptance criteria for the initial and continuing calibrations. Bromomethane was outside the acceptance limits for % drift for the continuing calibration. All affected sample data were qualified as estimated (J).

### **Blanks**

Blank analyses data is to determine the existence and magnitude of contamination problems resulting from laboratory and / or field activities and to subsequently assess their contribution to measurement error

A trip blank (2001439) and all method blanks were evaluated for contamination for VOCs. No detects were reported in the blanks.

# **Surrogate Compounds**

Sample matrix effects and laboratory performance on individual samples are assessed by evaluating surrogate recovery. Poor surrogate recovery can be an indication of Interfering matrix effects, presence of high concentration target and/or non-target analytes, and poor laboratory performance.

QC acceptance criteria was met for percent recovery (%R) for surrogates in all of the field samples, QC samples and blanks analyzed for VOCs.

#### Internal Standards

Instrument performance, stability and laboratory precision are evaluated by assessing internal standard area count recovery and retention time drift.

All QC acceptance criteria were met for internal standard (IS) area counts and retention times.

# Matrix Spike / Matrix Spike Duplicate Analyses

Data for matrix spike / matrix spike duplicates were evaluated to determine laboratory precision and method bias for specific sample matrices.

The laboratory performed a VOC matrix spike / matrix spike duplicate (MS/MSD) analyses on LEA soil sample 2001435. The following table summarizes data, which did not meet QC acceptance criteria:

Compound	%Rec MS	%Rec MSD	QC limits	RPD	Positive detects	NDs	Bias	Affected Samples
Chloroethane	48	50	60-142		J	J	Low	2001435

The non-detect result for chloroethane in the unspiked sample was qualified as an estimated result.

# **Laboratory Control Sample**

Laboratory control samples are evaluated to assess the internal quality control of the laboratory's analytical method accuracy and method bias.

All QC acceptance criteria were met for percent recovery for the VOC laboratory control sample.

# Field Duplicate

A field duplicate was not submitted with this data set.

# **Tentatively Identified Compounds**

No tentatively identified compounds were reported.

# SEMIVOLATILE ORGANIC ANALYSES

#### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and

direction of the quantitative bias.

A performance evaluation sample was not submitted with this data set. PEs are submitted at a frequency of one per 20 samples and are tracked on an on-going basis.

## Preservation and technical holding times

The validity of the analytical results is evaluated based on the preservation techniques used and the holding time of the sample, as appropriate.

The sample cooler temperature recorded by the laboratory was 11.0°C. The QC acceptance limit for sample temperature is 2°C – 6°C. Samples were not qualified based on sample temperature since the time from sample collection to transport to receipt at the laboratory is very short. All samples were placed on ice during transport. All samples were extracted and analyzed within method specified holding times.

#### **GC/MS Instrument Performance Check**

Gas chromatograph / mass spectrometer (GC/MS) instrument performance (tuning) checks are evaluated to ensure proper mass calibration and resolution, identification and to some degree sensitivity.

All ion abundance acceptance criteria specified in the methods SVOCs were met for each 12-hour period that samples were analyzed.

# **Initial and Continuing Calibration**

Compliance requirements for initial and continuing calibrations are evaluated to ensure that the instruments are capable of producing acceptable qualitative and quantitative data.

All target compounds were within acceptance limits for SVOC compounds for the

initial and continuing calibrations.

#### **Blanks**

Blank analyses data is to determine the existence and magnitude of contamination problems resulting from laboratory and / or field activities and to subsequently assess their contribution to measurement error

No detects were reported in the method blank.

# **Surrogate Compounds**

Sample matrix effects and laboratory performance on individual samples are assessed by evaluating surrogate recovery. Poor surrogate recovery can be an indication of Interfering matrix effects, presence of high concentration target and/or non-target analytes, and poor laboratory performance.

QC acceptance criteria was met for percent recovery (%R) for surrogates in all of the field samples, QC samples and blanks analyzed for SVOCs.

#### **Internal Standards**

Instrument performance, stability and laboratory precision are evaluated by assessing internal standard area count recovery and retention time drift.

All SVOC QC acceptance criteria were met for internal standard (IS) area counts and retention times.

#### Matrix Spike / Matrix Spike Duplicate Analyses

Data for matrix spike / matrix spike duplicates were evaluated to determine laboratory precision and method bias for specific sample matrices.

The laboratory performed an SVOC matrix spike / matrix spike duplicate (MS/MSD) analyses on LEA soil sample 2001435. The following table summarizes data, which did not meet QC acceptance criteria:

Compound	% Rec MS	%Rec MSD	QC limits	% RPD	RPD limits	Positive detects	NDs	Bias	Affected Samples
Benzo(b)fluoranthene				70	69	J	J	None	2001435
Benzo(g,h,i)perylene			•	41.8	38	J	J	None	2001435
Dibenz(a,h)anthracene				35.0	32	J	J	None	2001435
Di-n-butyl phthalate				26.9	21	J	J	None	2001435
2,4-dinitrophenol				60	47	J	J	None	2001435
Fluoranthene				86.5	24	J	J	None	2001435
Hexachlorocylopentadiene				57.8	41	J	J	None	2001435
2-Methyl-4,6- dinitrophenol				72.3	52	J	J	None	2001435

The results in the unspiked sample were qualified as an estimated result.

# **Laboratory Control Sample**

Laboratory control samples are evaluated to assess the internal quality control of the laboratory's analytical method accuracy and method bias.

All QC acceptance criteria for percent recovery for the SVOC laboratory control

sample.

# Field Duplicate

A few duplicate pair was not submitted with this data set. Field duplicates were submitted at a frequency of one per twenty samples and are tracked on an on-going basis.

# **Tentatively Identified Compounds**

No tentatively identified compounds were reported.

# **INORGANIC DATA REVIEW**

Inorganic data review includes a review of data for RCRA 8 metals plus copper, nickel, zinc and cyanide.

# **REVIEW OF ELEMENTS**

Sample data were reviewed for the following parameters:

•	Performance Evaluation Data	• ]	Matrix Spike
•	Agreement with Chain of Custody	• ]	Field Duplicates
•	Preservation and Technical Holding	• ]	Laboratory Duplicates
	Times	• ]	Furnace AA / Post Digestion Spike
•	Calibration Verification	• 1	Laboratory Control Sample
•	Blanks	• ;	Serial Dilution Results
•	ICP Interference Check Sample	•	Detection Limit Results

#### **DISCUSSION**

#### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

A performance evaluation sample was not submitted with this data set. PEs are submitted at a frequency of one per 20 samples and are tracked on an on-going basis.

# **Preservation and Holding Times**

All samples were properly preserved and analyzed within method-specified holding times.

### Calibration Verification

Compliance requirements are evaluated to ensure that the instrument is capable of producing acceptable quantitative data.

All initial calibration verification (ICV) and continuing calibration verification (CCV) for all metals were analyzed at the appropriate frequency and were within control limits

#### Lab Fortified Blanks

Blank analyses were assessed to determine the existence and magnitude of contamination problems.

All analytes were within acceptance limit for percent recovery for the lab fortified

blank analyses.

# **ICP Interference Check Sample**

The ICP interference check sample is evaluated to verify the laboratory's interelement and background correction factors.

All data met the QC acceptance criteria.

# Matrix Spike / Matrix Spike Duplicate

The matrix spike sample was evaluated to provide information about the effect of the sample matrix on the digestion and measurement methodology.

A MS/MSD was performed on sample 2001435. All analytes were within acceptance limits for % recovery (%R) and Relative Percent Difference (RPD) for the MS and MSD analyses. The following table summarizes data, which did not meet QC acceptance criteria:

Compound	%Rec MS	%Rec MSD	QC limits	% RPD	RPD limits	Positive detects	NDs	Bias	Affected Samples
Chromium	154.4%	153.4%	75-125			J	A	High	2001435
Lead	173.8%	169.6%	75-125			J	A	High	2001435

All affected data were qualified accordingly.

# **Laboratory Duplicates**

All analytes were within acceptance limits for Relative Percent Difference for the laboratory duplicate analyses. Criteria for acceptable duplicate precision is less than

35% RPD for sample results that are greater than five times the CRDL and +/- 2X CRDL for sample results that are less than the five times the CRDL.

## **Field Duplicates**

Field duplicates were assessed to determine overall precision (i.e. field and laboratory precision).

A field duplicate was not submitted with this data set. Field duplicates are submitted at a frequency of one per twenty samples and are tracked on an on-going basis.

# **Laboratory Control Sample**

The laboratory control sample is evaluated to assess the efficiency of the digestion procedure.

The following table summarizes data that did not meet acceptance criteria (80-120%) for percent recovery (%R) criteria:

Analyte	%R	%R Range	Detects	Non-detects	Samples affected
Cadmium	18.6	80-120	J	ΠΊ	All
Selenium	75.4	80-120	J	UJ	All

All data were qualified accordingly.

# **GENERAL CHEMISTRY DATA REVIEW**

General Chemistry data review includes review of analyses for Total Petroleum Hydrocarbons (TPH). There are currently no Region 1 functional guidelines for data validation of general chemistry parameters. Therefore, general chemistry data are

evaluated based upon the QC requirements specified in the method by which they were analyzed.

### REVIEW OF ELEMENTS

Sample data were reviewed for the following parameters:

- Performance Evaluation Sample Data
- Agreement with Chain of Custody
- Preservation and Holding Time
- Initial Calibration Verification
- Continuing Calibration Verification
- Blanks

- Matrix Spike
- Field Duplicates
- Laboratory Duplicates
- Laboratory Control Sample
- Detection Limit Results

### **DISCUSSION**

# **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

A performance evaluation sample was not submitted with this data set. PEs are submitted at a frequency of one per 20 samples and are tracked on an on-going basis.

# Preservation and Holding Times

All samples analyzed for TPH were extracted within method-specified holding times.

### **Initial Calibration Verification**

The initial calibration was analyzed at the appropriate frequency. All initial calibration QC acceptance criteria were met.

# **Continuing Calibration Verification**

The continuing calibrations were analyzed at the appropriate frequency. The %Rs were within +/- 10% for all continuing calibration analyses. All QC acceptance criteria were met.

#### **Blanks**

No positive detects were reported in the associated method blanks. All QC acceptance criteria for the blanks were acceptable.

# **Matrix Spike**

A MS / MSD was performed on sample 2001435 and was within QC acceptance limits for %R and RPD for TPH.

# **Field Duplicate**

A few duplicate pair was not submitted with this data set. Field duplicates were submitted at a frequency of one per twenty samples and are tracked on an on-going basis.

## **Laboratory Control Sample**

All QC acceptance criteria were met for LCS for TPH.

## OVERALL EVALUATION OF THE DATA

The objective of the final evaluation of this data package is to identify the "analytical error" and any "sampling error" associated with the data. The sum of the "analytical error" and the "sampling error" equals the "measurement error." The end user should use the "measurement error" in conjunction with sampling variability to determine "total error" (total uncertainty) associated with the data. The data in this data package have been qualified as rejected (R) or estimated (J) depending upon the degree of analytical and / or sampling error. Ultimately, the end user should assess data usability in the context of the pre-determined Data Quality Objectives (DQOs) and resultant "total error" of the data.

Chloroethane was qualified as estimated based on low percent recovery for the MS and MSD analyses. Bromomethane was qualified as estimated due to high continuing calibration drift. Some SVOC compounds were qualified as estimated based on high %RPD in the MS / MSD analyses. Some metal results were qualified as estimated based on low percent recovery for the LCS sample. Some metal results were qualified as estimated based on high percent recovery for the MS / MSD analyses. A description of the qualified sample results are outlined in Tables 3 and 4 specific to each parameter and are attached to this validation report.

To the best of my knowledge, after thorough review of the attached sampling data and validation information, I believe that the data does show that the Performance Standards identified in the Remedial Action Work Plan have been met.

Authorized Pratt & Whitney Representative

Christia M. Claring



# Loureiro Engineering Associates, Inc.

To:

Brian Cutler / LEA

From:

Tina Clemmey / LEA

Sample Date: DV Date:

11/30/01 01/28/02

Project Name: Willow Brook Pond PCB Remediation

DV Report for Other Parameters

A Tier II data validation was performed on data for one soil samples collected on November 30, 2001 for the Willow Brook Willow Pond PCB Remediation Project at Pratt & Whitney in East Hartford, Connecticut. The sample discussed in this validation memorandum was analyzed for SVOCs by SW846 Method 8270C and Metals by SW846 Method 6010B. These parameters are herein referred to as the "other parameters."

The samples were submitted to Premier Laboratory, LLC in Brooklyn, CT. Premier processed and reported these samples under Project 88UT103. The internal laboratory lot number associated with this sample delivery group is E111C58 and E112485 (SPLP metals only).

The sample results were assessed according to Region 1, EPA Data Validation Functional Guidelines for Evaluating Environmental Analyses: Organic Data Review (December 1996), Pesticides / PCBs Data Review (July 1988) and Inorganic Data Review (February 1989) as appropriate. Chemistry parameters were validated using the same logic as presented in Region 1, EPA validation guidelines for other parameters where applicable. Since there is no official guidance at this time for validating general chemistry analyses. Technical judgement was applied when applicable and necessary.

The following tables have been included in this report: Table I: Summary of Tier II Data Assessment, Table II Samples associated with the sample delivery group (SDG), Table III: Summary of Data Validation Qualifiers applied to samples as a result of the validation, and Table IV: Summary of Qualified Analytical Results.

An explanation of the validation decisions is presented below.

#### **SAMPLES**

Samples included in this review are listed in Table II of this report.

### ORGANIC DATA REVIEW

Organic data review includes review of analyses for volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs).

#### **REVIEW OF ELEMENTS**

Sample data were reviewed for the following parameters:

- Performance Evaluation Sample Data
- Agreement with Chain-of-Custody
- Preservation and Holding Time
- GC/MS Instrument Performance Check
- Initial and Continuing Calibration
- Blanks

- Surrogate Compounds
- Internal Standards
- Matrix Spike / Matrix Spike Duplicate
- Laboratory Control Sample
- Practical Quantitation Limits
- Tentatively Identified compounds

#### **DISCUSSION**

# Agreement of Analyses with Chain of Custody

Sample reports are checked to verify that the reported results corresponded to analytical requests as detailed on the chain-of-custody record. The chain-of-custody form is reviewed for accuracy and completeness.

One soil sample was relinquished to Premier Laboratory, LLC under chain-of-custody on November 30, 2001. The laboratory received the samples on November 30, 2001." During validation, the chain-of-custody form was reviewed for accuracy and completeness. The analysis requested was labeled, but not checked off. After investigation, the correct parties were notified, and the problem was corrected. The sample was analyzed correctly.

# SEMIVOLATILE ORGANIC ANALYSES

#### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

A PE sample was not submitted with the data set.

## Preservation and technical holding times

The validity of the analytical results is evaluated based on the preservation techniques used and the holding time of the sample, as appropriate.

The sample cooler temperature recorded by the laboratory was 12.0°C. The QC

acceptance limit for sample temperature is  $2^{\circ}\text{C} - 6^{\circ}\text{C}$ . Samples were not qualified based on sample temperature since the time from sample collection to transport to receipt at the laboratory is very short. All samples were placed on ice during transport. All samples were extracted and analyzed within method specified holding times.

#### GC/MS Instrument Performance Check

Gas chromatograph / mass spectrometer (GC/MS) instrument performance (tuning) checks are evaluated to ensure proper mass calibration and resolution, identification and to some degree sensitivity.

All ion abundance acceptance criteria specified in the methods SVOCs were met for each 12-hour period that samples were analyzed.

# **Initial and Continuing Calibration**

Compliance requirements for initial and continuing calibrations are evaluated to ensure that the instruments are capable of producing acceptable qualitative and quantitative data.

All SVOC target compounds were within the QC acceptance criteria for the initial and continuing calibrations.

## **Blanks**

Blank analyses data is to determine the existence and magnitude of contamination problems resulting from laboratory and / or field activities and to subsequently assess their contribution to measurement error

All method blanks were evaluated for contamination for SVOCs. No detects were reported.

# **Surrogate Compounds**

Sample matrix effects and laboratory performance on individual samples are assessed by evaluating surrogate recovery. Poor surrogate recovery can be an indication of Interfering matrix effects, presence of high concentration target and/or non-target analytes, and poor laboratory performance.

QC acceptance criteria was met for percent recovery (%R) for surrogates in all of the field samples, QC samples and blanks analyzed for SVOCs.

#### **Internal Standards**

Instrument performance, stability and laboratory precision are evaluated by assessing internal standard area count recovery and retention time drift.

The following table summarizes SVOC QC acceptance criteria that were not met for internal standard (IS) area counts and retention times:

1	imple imber	Internal Standards	Area Counts	Ret. Time	Area counts QC Range	Ret.Time QC Range	Detect	Non- detect
200	01401	Perylene-d12	362562	24.29	471225-1884900	23.84-24.84	J	UJ
2001	1401MS	Perylene-d12	242856	24.29	471225-1884900	23.84-24.84	J	UJ
20014	401MSD	Perylene-d12	199029	24.29	471225-1884900	23.84-24.84	J	UJ

All samples were qualified accordingly.

# Matrix Spike / Matrix Spike Duplicate Analyses

Data for matrix spike / matrix spike duplicates were evaluated to determine laboratory precision and method bias for specific sample matrices.

The laboratory performed an SVOC matrix spike / matrix spike duplicate (MS/MSD) analyses on LEA soil sample 2001401. The following table summarizes data, which did not meet QC acceptance criteria:

Compound	%Rec MS	%Rec MSD	QC limits	% RPD	RPD limit	Positive detects	NDs	Bias	Affected Samples
Di-n-octyl phthalate	330	374	8-218			J	A	High	2001401
3- & 4-Methylphenols	103	107	21-89			J	A	High	2001401
Fluoranthene				29.6	24	J	J	High	2001401

All affected data were qualified accordingly.

# **Laboratory Control Sample**

Laboratory control samples are evaluated to assess the internal quality control of the laboratory's analytical method accuracy and method bias.

The laboratory control samples were within acceptance limits.

# **Field Duplicate**

A field duplicate pair was not submitted with this data set.

# **Tentatively Identified Compounds**

No tentatively identified compounds were reported.

# **INORGANIC DATA REVIEW**

# **REVIEW OF ELEMENTS**

Sample data were reviewed for the following parameters:

- Performance Evaluation Data
- Matrix Spike
- Agreement with Chain of Custody
- Field Duplicates
- Preservation and Technical Holding
- Laboratory Duplicates

Calibration Verification

Laboratory Control Sample

Blanks

- Serial Dilution Results
- ICP Interference Check Sample
- Detection Limit Results

#### DISCUSSION

#### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

A PE sample was not submitted with this data set.

# **Preservation and Holding Times**

All samples were properly preserved and analyzed within method-specified holding times.

#### **Calibration Verification**

Compliance requirements are evaluated to ensure that the instrument is capable of

producing acceptable quantitative data.

All initial calibration verification (ICV) and continuing calibration verification (CCV) for all metals were analyzed at the appropriate frequency and were within control limits

#### Lab Fortified Blanks

Blank analyses were assessed to determine the existence and magnitude of contamination problems.

All analytes were within acceptance limit for percent recovery for the lab fortified blank analyses.

# **ICP Interference Check Sample**

The ICP interference check sample is evaluated to verify the laboratory's interelement and background correction factors.

All data met the QC acceptance criteria.

# Matrix Spike / Matrix Spike Duplicate

The matrix spike sample was evaluated to provide information about the effect of the sample matrix on the digestion and measurement methodology.

A MS/MSD was performed on sample 2001401. All analytes were within acceptance limits for % recovery (%R) and Relative Percent Difference (RPD) for the MS and MSD analyses.

# **Laboratory Duplicates**

All analytes were within acceptance limits for Relative Percent Difference for the laboratory duplicate analyses. Criteria for acceptable duplicate precision is less than 35% RPD for sample results that are greater than five times the CRDL and +/- 2X CRDL for sample results that are less than the five times the CRDL.

# **Field Duplicates**

Field duplicates were assessed to determine overall precision (i.e. field and laboratory precision).

A field duplicate pair was not submitted with this data set.

## **Laboratory Control Sample**

The laboratory control sample is evaluated to assess the efficiency of the digestion procedure.

All mass metal data met the QC acceptance criteria (80-120%) for percent recovery (%R) criteria. The following table summarizes SPLP metal data that did not meet acceptance criteria for percent recovery (%R) criteria:

Analyte	%R	%R Range	Detects	Non-detects	Samples affected
Arsenic	135.4	80-120	J	Α	All SPLP samples in data set.
Nickel	79.9	80-120	J	UJ	All SPLP samples in data set.
Lead	127.4	80-120	J	A	All SPLP samples in data set.
Mercury	124.4	80-120	J	A	All SPLP samples in data set.

All data were qualified accordingly.

## OVERALL EVALUATION OF THE DATA

The objective of the final evaluation of this data package is to identify the "analytical error" and any "sampling error" associated with the data. The sum of the "analytical error" and the "sampling error" equals the "measurement error." The end user should use the "measurement error" in conjunction with sampling variability to determine "total error" (total uncertainty) associated with the data. The data in this data package have been qualified as rejected (R) or estimated (J) depending upon the degree of analytical and / or sampling error. Ultimately, the end user should assess data usability in the context of the pre-determined Data Quality Objectives (DQOs) and resultant "total error" of the data.

Fluoranthene was qualified as estimated based on high RPD for the MSD analysis. SVOC internal standard Perylene-d12 associated compounds were qualified as estimated based on low area counts. Nickel (SPLP) was estimated due to low LSC % recovery. A description of the qualified sample results are outlined in Tables 3 and 4 specific to each parameter and are attached to this validation report.

To the best of my knowledge, after thorough review of the attached sampling data and validation information, I believe that the data does show that the Performance Standards identified in Paragraph 16 of the Partial Consent Decree Relating to Multiple Parties, Performance of Remedial Work and Cost Recovery have been met.

Authorized Pratt & Whitney Representative

Christina N. Claury



# Loureiro Engineering Associates, Inc.

To:

Brian Cutler / LEA

From:

Tina Clemmey / LEA

DV Report Date:

12/04/01

Project Name:

Willow Brook Pond PCB Remediation

Sampled Date:

11/29/01

A Tier II data validation was performed on data for twelve soil samples collected on November 29, 2001 for the Willow Brook Willow Pond PCB Remediation Project at Pratt & Whitney in East Hartford, Connecticut. The samples were collected from locations of the Site designated as WT-CS-02-049 through WT-CS-02-058. All samples were analyzed for PCBs by USEPA SW846 Method 8082.

The samples were submitted to Premier Laboratory, LLC in Brooklyn, CT. Premier processed and reported these samples under Project 88UT002-103. The internal laboratory lot numbers associated with this sample delivery group is E111C63 and E111C70.

The sample results were assessed according to Region 1, EPA Data Validation Functional Guidelines for Evaluating Environmental Analyses: Pesticides / PCBs, July 1988. Additional guidance and logic was obtained from the Functional Guidelines for Volatile / Semivolatile Data Validation Functional Guidelines, December 1996 when applicable. Technical judgement was also applied where applicable

The following tables have been included in this report: Table 1: Tier II Data

Assessment, Table 2: Samples associated with the sample delivery group (SDG), Table 3: Summary of Data Validation Qualifiers applied to samples as a result of the validation, Table 4: Summary of Qualified Analytical Results.

An explanation of the validation decisions is presented below.

### **SAMPLES**

Samples included in this review are listed in Table 2 of this report.

### **PCB ANALYSES**

### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias. The frequency for performance evaluation samples for this project is one per twenty field samples.

A double blind aqueous performance evaluation sample (2001402) was submitted with the E111C70 data set. The PE samples were prepared by Environmental Resource Associates (ERA). The ERA lot numbers associated with this sample was 1128-01-03.3. Aroclor 1254 was spiked into the sample at a concentration of 9.67 ug/l. The vendor certified acceptance limit was 4.95-12.8 ug/l. The laboratory reported 6.1 ug/l, which met the acceptance criteria.

A double blind aqueous performance evaluation sample (2001403) was submitted with the E111C63 data set. The PE sample was prepared by Environmental Resource Associates (ERA). The ERA lot numbers associated with the samples were 1128-01-03.2 Aroclor 1254 was spiked into the sample at a concentration of 5.09 ug/l. The vendor certified acceptance limit was 2.61

- 6.72 ug/l. the laboratory reported 4.0 u/l, which was within acceptance criteria. Performance data is presented in Attachment 1 of this report.

## Preservation and technical holding times

The validity of the analytical results is evaluated based on the preservation techniques used and the holding time of the sample, as appropriate.

The samples were extracted and analyzed within acceptable holding time. The sample temperature upon receipt was 12°C, which was outside the acceptance limit of 4°C +/-2°C. No qualification was applied based on sample temperature due to the logistics of the sample collection / transport process. Generally the samples are collected, immediately transferred to a courier and delivered to the laboratory within one hour of pickup. This issue does not impact data usability.

# Agreement with the Chain of Custody

Twelve samples were shipped to Premier Laboratory under chain of custody on 11/30/01. The samples were analyzed for PCBs by SW846 Method 8082. Samples were also submitted for "other" constituents. Validation of PCBs is discussed in this report. Validation of the "other" constituents is discussed under separate cover. No discrepancies were noted. All samples were analyzed for as requested.

## **Initial Calibration and Continuing Calibration**

Compliance requirements for initial and continuing calibrations are evaluated to ensure that the instruments are capable of producing acceptable qualitative and quantitative data.

Initial calibration curves were performed on GC4 and GC8. Equal concentrations of a mixture of Aroclors 1016 and 1260 were used. Calibration factors were calculated at five concentrations. All percent relative standard deviations (%RSD) were less than 20%.

Continuing calibration verifications were performed on GC4 and GC8. Each continuing calibration standard consisted of a mixture of Aroclors 1016 and 1260 and was performed at a single concentration. The percent drift (%D) was less than 15%. QC acceptance criteria were met for the continuing calibration.

#### **Blanks**

Blank analyses data is to determine the existence and magnitude of contamination problems resulting from laboratory and / or field activities and to subsequently assess their contribution to measurement error

No detects were reported in the method blank.

### **Surrogate Compounds**

Sample matrix effects and laboratory performance on individual samples are assessed by evaluating surrogate recovery. Poor surrogate recovery can be an indication of Interfering matrix effects, presence of high concentration target and/or non-target analytes, and poor laboratory performance.

Surrogates tetrachloro-m-xylene and decachlorobiphenyl were spiked into every sample. QC acceptance criteria was met for percent recovery (%R) for both surrogates in all of the field samples, QC samples and blanks analyzed for PCBs.

### Matrix Spike / Matrix Spike Duplicate Analyses

Data for matrix spike / matrix spike duplicates were evaluated to determine laboratory precision and method bias for specific sample matrices.

A matrix spike / matrix spike duplicate was performed on sample 2001387 for lot E111C63. All spiking compounds were diluted out, as the initial concentration in the unspiked sample was 3600 ug/kg. Percent recovery and relative percent difference could not be evaluated. There was no matrix spike / matrix spike duplicate for sample 2001386 for lot E111C70. The sample was not spiked but it was analyzed. The

samples were compared as a triplicate. The samples contained Aroclor 1254 at the following concentrations: 650 ug/kg, 580 ug/kg and 650 ug/kg (RPD 11%). The samples met QC acceptance criteria for duplicate precision RPD<50%).

## **Laboratory Control Sample**

Laboratory control samples are evaluated to assess the internal quality control of the laboratory's analytical method accuracy and method bias.

All QC acceptance criteria were met for percent recovery (%R) for the LCS samples.

## Field Duplicate

Samples 2001388 / 2001389 and 2001392 / 2001393 were submitted as field duplicate pairs. The RPD for the duplicate pair 2001388 / 2001389 was 47% for Aroclor 1254. The RPD for the duplicate pair 2001392 / 2001393 was not calculated since one result was non-detect (Aroclor 1242 ND<42 ug/kg) and the other result was greater than two times the reporting limit (Aroclor 1242: 380 ug/kg). Results for Aroclor 1242 were estimated in both samples due to poor field duplicate precision.

# OVERALL EVALUATION OF THE DATA

The objective of the final evaluation of this data package is to identify the "analytical error" and any "sampling error" associated with the data. The sum of the "analytical error" and the "sampling error" equals the "measurement error." The end user should use the "measurement error" in conjunction with sampling variability to determine "total error" (total uncertainty) associated with the data. Ultimately, the end user should assess data usability in the context of the pre-determined Data Quality Objectives (DQOs) and resultant "total error" of the data.

Aroclor 1242 results for samples 2001392 and 2001393 were estimated based on poor field duplicate precision.

To the best of my knowledge, after thorough review of the attached sampling data and

validation information, I believe that the data does show that the Performance Standards identified in the Remedial Action Work Plan have been met.

Authorized Pratt & Whitney Representative

Christia M. Cleany



# Loureiro Engineering Associates, Inc.

To:

Brian Cutler / LEA

From:

Tina Clemmey / LEA

DV Report Date:

01/28/02

Project Name:

Willow Brook Pond PCB Remediation

Sampled Date:

11/29/01

A Tier II data validation was performed on data for six soil samples collected on November 29, 2001 for the Willow Brook Willow Pond PCB Remediation Project at Pratt & Whitney in East Hartford, Connecticut.

The samples were submitted to Premier Laboratory, LLC in Brooklyn, CT. Premier processed and reported these samples under Project 88UT103. The internal laboratory lot number associated with this sample delivery group is E111C63.

The sample results were assessed according to Region 1, EPA Data Validation Functional Guidelines for Evaluating Environmental Analyses: Organic Data Review (December 1996), Pesticides / PCBs Data Review (July 1988) and Inorganic Data Review (February 1989) as appropriate. Chemistry parameters were validated using the same logic as presented in Region 1, EPA validation guidelines for other parameters where applicable. Since there is no official guidance at this time for validating general chemistry analyses. Technical judgement was applied when applicable and necessary.

The following tables have been included in this report: Table I: Summary of Tier II Data Assessment, Table II Samples associated with the sample delivery group (SDG),

Table III: Summary of Data Validation Qualifiers applied to samples as a result of the validation, and Table IV: Summary of Qualified Analytical Results.

An explanation of the validation decisions is presented below.

### **SAMPLES**

Samples included in this review are listed in Table II of this report.

# ORGANIC DATA REVIEW

Organic data review includes review of analyses for volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs).

# **REVIEW OF ELEMENTS**

Sample data were reviewed for the following parameters:

•	Performance Evaluation	Sample Data	Surrogate Compounds

- Agreement with Chain-of-Custody
   Internal Standards
- Preservation and Holding Time
   Matrix Spike / Matrix Spike Duplicate
- GC/MS Instrument Performance
   Laboratory Control Sample
   Check
- Initial and Continuing Calibration
   Practical Quantitation Limits
- Blanks
   Tentatively Identified compounds

### DISCUSSION

# Agreement of Analyses with Chain of Custody

Sample reports are checked to verify that the reported results corresponded to analytical requests as detailed on the chain-of-custody record. The chain-of-custody form is reviewed for accuracy and completeness.

Samples were relinquished to Premier Laboratory, LLC under chain-of-custody on November 29, 2001. The laboratory received the samples on November 29, 2001. During validation, the chain-of-custody form was reviewed for accuracy and completeness. No discrepancies were noted...

# **VOLATILE ORGANIC ANALYSES**

### Performance Evaluation Data

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

Seventeen VOCs were spiked into the sample. All the PE data were within vendor-certified acceptance limits.

# Preservation and technical holding times

The validity of the analytical results is evaluated based on the preservation techniques used and the holding time of the sample, as appropriate.

The sample cooler temperature recorded by the laboratory was 12.0°C. The QC

acceptance limit for sample temperature is  $2^{\circ}\text{C} - 6^{\circ}\text{C}$ . Samples were not qualified based on sample temperature since the time from sample collection to transport to receipt at the laboratory is very short. All samples were placed on ice and in addition, all VOC soil samples were preserved on site in methanol according to SW846 Method 5035. All samples were extracted and analyzed within method specified holding times.

#### GC/MS Instrument Performance Check

Gas chromatograph / mass spectrometer (GC/MS) instrument performance (tuning) checks are evaluated to ensure proper mass calibration and resolution, identification and to some degree sensitivity.

All ion abundance acceptance criteria specified in the methods for VOCs were met for each 12-hour period that samples were analyzed.

# **Initial and Continuing Calibration**

Compliance requirements for initial and continuing calibrations are evaluated to ensure that the instruments are capable of producing acceptable qualitative and quantitative data.

All VOC target compounds were within the QC acceptance criteria for the initial and continuing calibrations.

#### **Blanks**

Blank analyses data is to determine the existence and magnitude of contamination problems resulting from laboratory and / or field activities and to subsequently assess their contribution to measurement error

A trip blank (2001398) and all method blanks were evaluated for contamination for

VOCs. No detects were reported.

# **Surrogate Compounds**

Sample matrix effects and laboratory performance on individual samples are assessed by evaluating surrogate recovery. Poor surrogate recovery can be an indication of Interfering matrix effects, presence of high concentration target and/or non-target analytes, and poor laboratory performance.

QC acceptance criteria was met. for percent recovery (%R) for surrogates in all of the field samples, QC samples and blanks analyzed for VOCs.

#### Internal Standards

Instrument performance, stability and laboratory precision are evaluated by assessing internal standard area count recovery and retention time drift.

All VOC data for the QC acceptance criteria were met for internal standard (IS) area counts and retention times.

# Matrix Spike / Matrix Spike Duplicate Analyses

Data for matrix spike / matrix spike duplicates were evaluated to determine laboratory precision and method bias for specific sample matrices.

The laboratory performed a VOC matrix spike / matrix spike duplicate (MS/MSD) analyses on LEA soil sample 2001387. The following table summarizes data, which did not meet QC acceptance criteria:

Compound	%Rec	%Rec	QC limits	RPD	Positive detects	NDs	Bias	Affected Samples
	IVIS	MISD			detects			Samples

Chloroethane	45	44	60-142		J	J	Low	2001387
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All affected data were qualified accordingly.

# **Laboratory Control Sample**

Laboratory control samples are evaluated to assess the internal quality control of the laboratory's analytical method accuracy and method bias.

All data met the QC acceptance criteria for percent recovery for the VOC laboratory control sample(s).

# **Field Duplicate**

Samples 2001392 / 2001393 were submitted as a field duplicate pair. The relative percent difference was not calculated since no detects were reported in either sample.

# **Tentatively Identified Compounds**

No tentatively identified compounds were reported.

# SEMIVOLATILE ORGANIC ANALYSES

#### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

Forty-one SVOCs were spiked into the sample. All the PE data were within vendor-

certified acceptance limits.

# Preservation and technical holding times

The validity of the analytical results is evaluated based on the preservation techniques used and the holding time of the sample, as appropriate.

The sample cooler temperature recorded by the laboratory was  $12.0^{\circ}$ C. The QC acceptance limit for sample temperature is  $2^{\circ}$ C  $-6^{\circ}$ C. Samples were not qualified based on sample temperature since the time from sample collection to transport to receipt at the laboratory is very short. All samples were placed on ice according to SW846 Method 5035. All samples were extracted and analyzed within method specified holding times.

### GC/MS Instrument Performance Check

Gas chromatograph / mass spectrometer (GC/MS) instrument performance (tuning) checks are evaluated to ensure proper mass calibration and resolution, identification and to some degree sensitivity.

All ion abundance acceptance criteria specified in the methods SVOCs were met for each 12-hour period that samples were analyzed.

### **Initial and Continuing Calibration**

Compliance requirements for initial and continuing calibrations are evaluated to ensure that the instruments are capable of producing acceptable qualitative and quantitative data.

All SVOC target compounds were within the QC acceptance criteria for the initial and continuing calibrations.

### **Blanks**

Blank analyses data is to determine the existence and magnitude of contamination problems resulting from laboratory and / or field activities and to subsequently assess their contribution to measurement error

All method blanks were evaluated for contamination for SVOCs. No detects were reported.

# **Surrogate Compounds**

Sample matrix effects and laboratory performance on individual samples are assessed by evaluating surrogate recovery. Poor surrogate recovery can be an indication of Interfering matrix effects, presence of high concentration target and/or non-target analytes, and poor laboratory performance.

QC acceptance criteria was met for percent recovery (%R) for surrogates in all of the field samples, QC samples and blanks analyzed for SVOCs.

#### Internal Standards

Instrument performance, stability and laboratory precision are evaluated by assessing internal standard area count recovery and retention time drift.

The following table summarizes SVOC QC acceptance criteria that were not met for internal standard (IS) area counts and retention times:

Sample Number	Internal Standards	Area Counts	Ret. Time	Area counts QC Range	Ret.Time QC Range	Detect	Non- detect
2001387	Perylene-d12	281650	22.39	364664-145568	21.90-22.90	J	UJ
2001387MS	Perylene-d12	188070	22.39	364664-145568	21.90-22.90	J	UJ

2001387MSD Perylene-d12 19925	22.38 364664-145568	21.90-22.90 J	UJ
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# .Matrix Spike / Matrix Spike Duplicate Analyses

Data for matrix spike / matrix spike duplicates were evaluated to determine laboratory precision and method bias for specific sample matrices.

The laboratory performed an SVOC matrix spike / matrix spike duplicate (MS/MSD) analyses on LEA soil sample 2001387. The following table summarizes data, which did not meet QC acceptance criteria:

Compound	%Rec MS	%Rec MSD	QC limits	% RPD	RPD	Positive detects	NDs	Bias	Affected Samples
Fluoranthene				106	24	J	J		2001387
Hexachlorocyclopentadiene				42.8	41	J	1		2001387
2-Methyl-4,6-dinitrophenol		0	5-109	200	52	J	R	Low	2001387

All affected data were qualified accordingly.

# **Laboratory Control Sample**

Laboratory control samples are evaluated to assess the internal quality control of the laboratory's analytical method accuracy and method bias.

All data met the QC acceptance criteria for percent recovery for the SVOC laboratory control sample(s).

# Field Duplicate

Samples 2001392 / 2001393 were submitted as a field duplicate pair. The following table summarizes duplicate precision data:

Compound	Sample # 2001392 (ug/kg)	Duplicate # 2001393 (ug/kg)	RPD	Action	Affected Samples
Anthracene	ND	190	NC	Α	2001377, 2001378
Benzo(a)anthracene	ND	380	NC	J	2001377, 2001378
Вепzо(а)рутепе	ND	290	NC	Α	2001377, 2001378
Benzo(b)fluoranthene	ND	230	NC	Α	2001377, 2001378
Benzo(k)fluoranthene	ND	290	NC	۸	2001377, 2001378
Chrysene	ND	350	NC	Α	2001377, 2001378
Fluoranthene	310	820	90%	J	2001377, 2001378
Phenanthrene	190	660	111%	J	2001377, 2001378
Pyrene	250	660	90%	1	2001377, 2001378

Acceptable duplicate precision for non-aqueous samples is <50% RPD for results greater than two times the detection limit. The RPD was not calculated (NC) for Benzo(a)anthracene; however, the data were qualified since one result was less than the detection limit and the other result was greater than two times the detection limit. All affected data were qualified accordingly.

# **Tentatively Identified Compounds**

No tentatively identified compounds were reported.

### INORGANIC DATA REVIEW

#### REVIEW OF ELEMENTS

Sample data were reviewed for the following parameters:

Performance Evaluation Data

Matrix Spike

Agreement with Chain of Custody

Field Duplicates

 Preservation and Technical Holding Times Laboratory Duplicates

Calibration Verification

Furnace AA / Post Digestion SpikeLaboratory Control Sample

Blanks

Serial Dilution Results

ICP Interference Check Sample

Detection Limit Results

#### DISCUSSION

### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

Eleven metals were spiked into the sample. All the PE data were within vendor-certified acceptance limits.

## **Preservation and Holding Times**

All samples were properly preserved and analyzed within method-specified holding times.

### **Calibration Verification**

Compliance requirements are evaluated to ensure that the instrument is capable of producing acceptable quantitative data.

All initial calibration verification (ICV) and continuing calibration verification (CCV) for all metals were analyzed at the appropriate frequency and were within control limits

### Lab Fortified Blanks

Blank analyses were assessed to determine the existence and magnitude of contamination problems.

All analytes were within acceptance limit for percent recovery for the lab fortified blank analyses.

# **ICP Interference Check Sample**

The ICP interference check sample is evaluated to verify the laboratory's interelement and background correction factors.

All data met the QC acceptance criteria.

# Matrix Spike / Matrix Spike Duplicate

The matrix spike sample was evaluated to provide information about the effect of the sample matrix on the digestion and measurement methodology.

A MS/MSD was performed on sample 2001387. All analytes were within acceptance limits for % recovery (%R) and Relative Percent Difference (RPD) for the MS and MSD analyses. Chromium, Copper, Nickel, and Lead were estimated due to high MS

MSD %R (225.4%, 153.2%, 141.5%, and 283.0%, respectively), outside the acceptance limits (75-125%). All affected data were qualified accordingly.

# **Laboratory Duplicates**

All analytes were within acceptance limits for Relative Percent Difference for the laboratory duplicate analyses. Criteria for acceptable duplicate precision is less than 35% RPD for sample results that are greater than five times the CRDL and +/- 2X CRDL for sample results that are less than the five times the CRDL.

# **Field Duplicates**

Field duplicates were assessed to determine overall precision (i.e. field and laboratory precision).

Samples 2001392 and 2001393 were submitted as a field duplicate pair. The following table summarizes duplicate precision data:

Compound	Sample # 2001392 (mg/kg)	Duplicate # 2001393 (mg/kg)	RPD	Action	Affected Samples
Arsenic	1.6	1.7	6%	A	2001392, 2001393
Barium	28	26	7%	A	2001392, 2001393
Cadmium	.21	.59	95%	J	2001392, 2001393
Chromium	7.6	8.4	10%	A	2001392, 2001393
Copper	4.9	5.8	17%	A	2001392, 2001393
Lead	26	34	27%	A	2001392, 2001393

Nickel	6.6	7.0	6%	A	2001392, 2001393	
Zinc	22	25	13% A		2001392, 2001393	
Mercury	.045	.048	6%	A	2001392, 2001393	

Acceptable duplicate precision for non-aqueous samples is <50% RPD for results greater than two times the detection limit. All affected data were qualified accordingly.

# **Laboratory Control Sample**

The laboratory control sample is evaluated to assess the efficiency of the digestion procedure.

All data met the QC acceptance criteria for percent recovery (%R) criteria.

# GENERAL CHEMISTRY DATA REVIEW

General Chemistry data review includes review of analyses for Total Petroleum Hydrocarbons (TPH). There are currently no Region 1 functional guidelines for data validation of general chemistry parameters. Therefore, general chemistry data are evaluated based upon the QC requirements specified in the method by which they were analyzed.

### REVIEW OF ELEMENTS

Sample data were reviewed for the following parameters:

- Performance Evaluation Sample Data
- Matrix Spike
- Agreement with Chain of Custody
- Field Duplicates

- Preservation and Holding Time
- Laboratory Duplicates
- Initial Calibration Verification
- Laboratory Control Sample
- Continuing Calibration Verification
- Detection Limit Results

Blanks

# **DISCUSSION**

# Performance Evaluation Data

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

The following table summarizes performance data that did not meet vendor certified acceptance criteria:

Compo	ound	Reported Concentration (mg/L)	Certified value (ug/L)	Acceptance Limits (ug/L)	Positive Detects	NDs	Bias	Affected Samples
TP	H	50.0	37.9	22.7-39.5	J	J	High	All samples in data set

All data were qualified accordingly.

# **Preservation and Holding Times**

All samples analyzed for TPH were extracted within method-specified holding times.

### **Initial Calibration Verification**

The initial calibration was analyzed at the appropriate frequency. The correlation coefficient for the initial calibration curve was greater than 0.9950. All initial calibration QC acceptance criteria were met.

# **Continuing Calibration Verification**

The continuing calibrations were analyzed at the appropriate frequency. The %Rs were within +/- 10% for all continuing calibration analyses. All QC acceptance criteria were met.

### Blanks

No positive detects were reported in the associated method blanks. All QC acceptance criteria for the blanks were acceptable

# Matrix Spike

The MS / MSD was within QC acceptance limits for TPH.

# Field Duplicate

Samples 2001392 and 2001393 were submitted as a field duplicate pair. The relative percent difference was not calculated since no detects were reported in either sample.

# **Laboratory Duplicate**

Laboratory precision was demonstrated through laboratory duplicate analysis. All sample duplicate results were within QC acceptance limits for duplicate RPD.

# **Laboratory Control Sample**

All QC acceptance criteria were met for LCS for TPH.

## OVERALL EVALUATION OF THE DATA

The objective of the final evaluation of this data package is to identify the "analytical error" and any "sampling error" associated with the data. The sum of the "analytical error" and the "sampling error" equals the "measurement error." The end user should use the "measurement error" in conjunction with sampling variability to determine "total error" (total uncertainty) associated with the data. The data in this data package have been qualified as rejected (R) or estimated (J) depending upon the degree of analytical and / or sampling error. Ultimately, the end user should assess data usability in the context of the pre-determined Data Quality Objectives (DQOs) and resultant "total error" of the data.

Chloroethane was estimated due to low MS/MSD % recovery. Fluoranthene and Hexacyclopentadiene were estimated due to high %RPD on the MS/MSD analysis. 2-Methyl-4, 6-dinitrophenol was rejected due to low MSD % recovery. Some SVOC data was estimated due to high RPD in the field duplicate analysis. SVOC internal standard perylene-d12 compounds for sample 2001387 were estimated due to low area count. Chromium, copper, nickel, and lead were estimated due to high MSD % recovery. Cadmium was estimated due to high RPD in the field duplicate analysis. TPH was estimated due to unacceptable performance evaluation data.

To the best of my knowledge, after thorough review of the attached sampling data and validation information, I believe that the data does show that the Performance Standards identified in Remedial Action Work Plan.

Authorized Pratt & Whitney Representative

Christia M. Claury



# Loureiro Engineering Associates, Inc.

To:

Brian Cutler / LEA

From:

Tina Clemmey / LEA

DV Report Date:

11/30/01

Project Name:

Willow Brook Pond PCB Remediation

Sampled Date:

11/28/01

A Tier II data validation was performed on data for 18 soil samples collected on November 28, 2001 for the Willow Brook Willow Pond PCB Remediation Project at Pratt & Whitney in East Hartford, Connecticut. The samples were collected from locations of the Site designated as WT-CS-02-033 through WT-CS-02-048. All samples were analyzed for PCBs by USEPA SW846 Method 8082.

The samples were submitted to Premier Laboratory, LLC in Brooklyn, CT. Premier processed and reported these samples under Project 88UT002-103. The internal laboratory lot number associated with this sample delivery group is E111B35. Samples 2001367 and 2001384 were analyzed within the analytical batch 11619.

The sample results were assessed according to Region 1, EPA Data Validation Functional Guidelines for Evaluating Environmental Analyses: Pesticides / PCBs, July 1988. Additional guidance and logic was obtained from the Functional Guidelines for Volatile / Semivolatile Data Validation Functional Guidelines, December 1996 when applicable. Technical judgement was also applied where applicable

The following tables have been included in this report: Table 1: Tier II Data

Assessment, Table 2: Samples associated with the sample delivery group (SDG), Table 3: Summary of Data Validation Qualifiers applied to samples as a result of the validation, Table 4: Summary of Qualified Analytical Results.

An explanation of the validation decisions is presented below.

#### **SAMPLES**

Samples included in this review are listed in Table 2 of this report.

## **PCB ANALYSES**

### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias. The frequency for performance evaluation samples for this project is one per twenty field samples.

A double blind aqueous performance evaluation sample was not submitted with this data set.

### Preservation and technical holding times

The validity of the analytical results is evaluated based on the preservation techniques used and the holding time of the sample, as appropriate.

The samples were extracted and analyzed within acceptable holding time. The sample temperature upon receipt was 10.0°C, which was outside the acceptance limit of 4°C +/- 2°C. No qualification was applied based on sample temperature. The sample collection and transport process is completed in a very short timeframe for this project. The field sampler often completes the sampling event while the courier is waiting.

The samples are placed in the cooler at ambient temperature as they are collected and transferred to the courier. Since the trip from the site to the lab is generally completed in less than one hour, there is not sufficient time for the samples to cool to 4°C. This issue does not impact data usability.

# Agreement with the Chain of Custody

Nineteen samples were shipped to Premier Laboratory under chain of custody on 11/28/01. Analyses were requested for PCBs and "other" parameters. Validation for samples analyzed for PCBs only are discussed in this validation report. Validation for "other" parameters is discussed under separate cover. The samples were analyzed for PCBs by SW846 Method 8082. No discrepancies were noted.

# **Initial Calibration and Continuing Calibration**

Compliance requirements for initial and continuing calibrations are evaluated to ensure that the instruments are capable of producing acceptable qualitative and quantitative data.

Initial calibration curves were performed on GC4 and GC8. Equal concentrations of a mixture of Aroclors 1016 and 1260 were used. Calibration factors were calculated at five concentrations. All percent relative standard deviations (%RSD) were less than 20%.

Continuing calibration verifications were performed on GC4 and GC8. Each continuing calibration standard consisted of a mixture of Aroclors 1016 and 1260 and was performed at a single concentration. The percent drift (%D) was less than 15%. QC acceptance criteria were met for the continuing calibration.

## **Blanks**

Blank analyses data is to determine the existence and magnitude of contamination problems resulting from laboratory and / or field activities and to subsequently assess their contribution to measurement error

No detects were reported in the method blank.

# **Surrogate Compounds**

Sample matrix effects and laboratory performance on individual samples are assessed by evaluating surrogate recovery. Poor surrogate recovery can be an indication of Interfering matrix effects, presence of high concentration target and/or non-target analytes, and poor laboratory performance.

Surrogates tetrachloro-m-xylene and decachlorobiphenyl were spiked into every sample. QC acceptance criteria was met for percent recovery (%R) for both surrogates in all of the field samples, QC samples and blanks analyzed for PCBs.

# Matrix Spike / Matrix Spike Duplicate Analyses

Data for matrix spike / matrix spike duplicates were evaluated to determine laboratory precision and method bias for specific sample matrices.

A matrix spike / matrix spike duplicate was performed on sample 2001384 with this data set. Percent recovery was not evaluated since all spike concentrations were diluted out. A matrix spike / matrix spike duplicate was also performed on sample 2001368 with this data set. All QC acceptance criteria were met.

### **Laboratory Control Sample**

Laboratory control samples are evaluated to assess the internal quality control of the laboratory's analytical method accuracy and method bias.

All QC acceptance criteria were met for percent recovery (%R) for the LCS samples.

# Field Duplicate

Samples 2001371 / 2001372 and 2001377 / 2001378 were submitted as field duplicate pairs. The relative percent differences (RPDs) were not calculated since the results were all non-detected.

# OVERALL EVALUATION OF THE DATA

The objective of the final evaluation of this data package is to identify the "analytical error" and any "sampling error" associated with the data. The sum of the "analytical error" and the "sampling error" equals the "measurement error." The end user should use the "measurement error" in conjunction with sampling variability to determine "total error" (total uncertainty) associated with the data. Ultimately, the end user should assess data usability in the context of the pre-determined Data Quality Objectives (DQOs) and resultant "total error" of the data.

No data were qualified.

To the best of my knowledge, after thorough review of the attached sampling data and validation information, I believe that the data does show that the Performance Standards identified in the Remedial Action Work Plan have been met.

Authorized Pratt & Whitney Representative

Christia M. Clerry



# Loureiro Engineering Associates, Inc.

To:

Brian Cutler / LEA

From:

Tina Clemmey / LEA

DV Report Date:

01/22/02

Project Name:

Willow Brook Pond PCB Remediation

Sampled Date:

11/28/01

A Tier II data validation was performed on data for nine soil samples collected on November 28, 2001 for the Willow Brook Willow Pond PCB Remediation Project at Pratt & Whitney in East Hartford, Connecticut.

The samples were submitted to Premier Laboratory, LLC in Brooklyn, CT. Premier processed and reported these samples under Project 88UT103. The internal laboratory lot number associated with this sample delivery group is E111B35.

The sample results were assessed according to Region 1, EPA Data Validation Functional Guidelines for Evaluating Environmental Analyses: Organic Data Review (December 1996), Pesticides / PCBs Data Review (July 1988) and Inorganic Data Review (February 1989) as appropriate. Chemistry parameters were validated using the same logic as presented in Region 1, EPA validation guidelines for other parameters where applicable. Since there is no official guidance at this time for validating general chemistry analyses. Technical judgement was applied when applicable and necessary.

The following tables have been included in this report: Table I: Summary of Tier II Data Assessment, Table II Samples associated with the sample delivery group (SDG),

Table III: Summary of Data Validation Qualifiers applied to samples as a result of the validation, and Table IV: Summary of Qualified Analytical Results.

An explanation of the validation decisions is presented below.

## **SAMPLES**

Samples included in this review are listed in Table II of this report.

# ORGANIC DATA REVIEW

Organic data review includes review of analyses for volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs).

# **REVIEW OF ELEMENTS**

Sample data were reviewed for the following parameters:

•	Performance	Evaluation	Sample Data	•	Surrogate Comp	ounds
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- Agreement with Chain-of-Custody
   Internal Standards
- Preservation and Holding Time
   Matrix Spike / Matrix Spike Duplicate
- GC/MS Instrument Performance
   Laboratory Control Sample
   Check
- Initial and Continuing Calibration
   Practical Quantitation Limits
- Blanks
   Tentatively Identified compounds

## **DISCUSSION**

# Agreement of Analyses with Chain of Custody

Sample reports are checked to verify that the reported results corresponded to analytical requests as detailed on the chain-of-custody record. The chain-of-custody form is reviewed for accuracy and completeness.

Samples were relinquished to Premier Laboratory, LLC under chain-of-custody on November 28, 2001. The laboratory received the samples on November 28, 2001. During validation, the chain-of-custody form was reviewed for accuracy and completeness. No discrepancies were noted...

# **VOLATILE ORGANIC ANALYSES**

### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

A PE sample was not submitted with this data set.

# Preservation and technical holding times

The validity of the analytical results is evaluated based on the preservation techniques used and the holding time of the sample, as appropriate.

The sample cooler temperature recorded by the laboratory was  $10.0^{\circ}$ C. The QC acceptance limit for sample temperature is  $2^{\circ}$ C  $-6^{\circ}$ C. Samples were not qualified

based on sample temperature since the time from sample collection to transport to receipt at the laboratory is very short. All samples were placed on ice and in addition, all VOC soil samples were preserved on site in methanol according to SW846 Method 5035. All samples were extracted and analyzed within method specified holding times.

### **GC/MS Instrument Performance Check**

Gas chromatograph / mass spectrometer (GC/MS) instrument performance (tuning) checks are evaluated to ensure proper mass calibration and resolution, identification and to some degree sensitivity.

All ion abundance acceptance criteria specified in the methods for VOCs were met for each 12-hour period that samples were analyzed.

# **Initial and Continuing Calibration**

Compliance requirements for initial and continuing calibrations are evaluated to ensure that the instruments are capable of producing acceptable qualitative and quantitative data.

All VOC target compounds were within the QC acceptance criteria for the initial and continuing calibrations.

#### **Blanks**

Blank analyses data is to determine the existence and magnitude of contamination problems resulting from laboratory and / or field activities and to subsequently assess their contribution to measurement error

A trip blank (2001385) and all method blanks were evaluated for contamination for VOCs. No detects were reported.

# **Surrogate Compounds**

Sample matrix effects and laboratory performance on individual samples are assessed by evaluating surrogate recovery. Poor surrogate recovery can be an indication of Interfering matrix effects, presence of high concentration target and/or non-target analytes, and poor laboratory performance.

QC acceptance criteria was met for percent recovery (%R) for surrogates in all of the field samples, QC samples and blanks analyzed for VOCs.

### **Internal Standards**

Instrument performance, stability and laboratory precision are evaluated by assessing internal standard area count recovery and retention time drift.

All VOC data for the QC acceptance criteria were met for internal standard (IS) area counts and retention times.

# Matrix Spike / Matrix Spike Duplicate Analyses

Data for matrix spike / matrix spike duplicates were evaluated to determine laboratory precision and method bias for specific sample matrices.

The laboratory performed a VOC matrix spike / matrix spike duplicate (MS/MSD) analyses on LEA soil sample 2001368. The following table summarizes data, which did not meet QC acceptance criteria:

Compound	%Rec MS	%Rec MSD	QC limits	RPD	Positive detects	NDs	Bias	Affected Samples
Chloroethane	46	43	60-142		J	J	Low	2001368

All affected data were qualified accordingly.

# **Laboratory Control Sample**

Laboratory control samples are evaluated to assess the internal quality control of the laboratory's analytical method accuracy and method bias.

All data met the QC acceptance criteria for percent recovery for the VOC laboratory control sample(s).

# **Field Duplicate**

Samples 2001377 and 2001378 were submitted as a field duplicate pair. The relative percent difference was not calculated since no detects were reported in either sample.

# **Tentatively Identified Compounds**

No tentatively identified compounds were reported.

# SEMIVOLATILE ORGANIC ANALYSES

### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

A PE sample was not submitted with this data set.

# Preservation and technical holding times

The validity of the analytical results is evaluated based on the preservation techniques used and the holding time of the sample, as appropriate.

The sample cooler temperature recorded by the laboratory was  $10.0^{\circ}$ C. The QC acceptance limit for sample temperature is  $2^{\circ}$ C  $-6^{\circ}$ C. Samples were not qualified based on sample temperature since the time from sample collection to transport to receipt at the laboratory is very short. All samples were placed on ice and in addition, all VOC soil samples were preserved on site in methanol according to SW846 Method 5035. All samples were extracted and analyzed within method specified holding times.

#### GC/MS Instrument Performance Check

Gas chromatograph / mass spectrometer (GC/MS) instrument performance (tuning) checks are evaluated to ensure proper mass calibration and resolution, identification and to some degree sensitivity.

All ion abundance acceptance criteria specified in the methods SVOCs were met for each 12-hour period that samples were analyzed.

### **Initial and Continuing Calibration**

Compliance requirements for initial and continuing calibrations are evaluated to ensure that the instruments are capable of producing acceptable qualitative and quantitative data.

All SVOC target compounds were within the QC acceptance criteria for the initial and continuing calibrations.

### **Blanks**

Blank analyses data is to determine the existence and magnitude of contamination problems resulting from laboratory and / or field activities and to subsequently assess their contribution to measurement error

All method blanks were evaluated for contamination for SVOCs. No detects were reported.

# **Surrogate Compounds**

Sample matrix effects and laboratory performance on individual samples are assessed by evaluating surrogate recovery. Poor surrogate recovery can be an indication of Interfering matrix effects, presence of high concentration target and/or non-target analytes, and poor laboratory performance.

QC acceptance criteria was met for percent recovery (%R) for surrogates in all of the field samples, QC samples and blanks analyzed for SVOCs.

### **Internal Standards**

Instrument performance, stability and laboratory precision are evaluated by assessing internal standard area count recovery and retention time drift.

All SVOC QC acceptance criteria were met for internal standard (IS) area counts and retention times.

### Matrix Spike / Matrix Spike Duplicate Analyses

Data for matrix spike / matrix spike duplicates were evaluated to determine laboratory precision and method bias for specific sample matrices.

The laboratory performed an SVOC matrix spike / matrix spike duplicate (MS/MSD) analyses on LEA soil sample 2001368. All data for target compounds met the QC acceptance criteria.

# **Laboratory Control Sample**

Laboratory control samples are evaluated to assess the internal quality control of the laboratory's analytical method accuracy and method bias.

All data met the QC acceptance criteria for percent recovery for the SVOC laboratory control sample(s).

# **Field Duplicate**

Samples 2001377 and 2001378 were submitted as a field duplicate pair. The following table summarizes duplicate precision data:

Compound	Sample # 2001377 (ug/kg)	Duplicate # 2001378 (ug/kg)	RPD	Action	Affected Samples
Ancenaphthene	ND	880	NC	J	2001377, 2001378
Ancenaphthylene	380	ND	NC	Λ	2001377, 2001378
Anthracene	370	1700	129%	J	2001377, 2001378
Benzo(a)anthracene	1100	2500	78%	J	2001377, 2001378
Benzo(a)pyrene	1300	2400	59%	J	2001377, 2001378
Benzo(b)fluoranthene	1500	3100	70%	J	2001377, 2001378
Benzo(g,h,i)perylene	730	920	23%	Α	2001377, 2001378
Benzo(k)fluoranthene	1200	1200	0%	Α	2001377, 2001378
Chrysene	1500	2700	57%	J	2001377, 2001378
Dibenz(a,h)anthracene	280	ND	NC	A	2001377, 2001378

Fluoranthene	2600	7000	92%	1	2001377, 2001378
Fluorene	250	1000	120%	1	2001377, 2001378
Indeno(1,2,3-cd)pyrene	640	860	29%	A	2001377, 2001378
Naphthalene	ND	440	NC	A	2001377, 2001378
Phenanthrene	1900	7500	119%	1	2001377, 2001378
Pyrene	3000	5800	64%	J	2001377, 2001378
Carbazole	260	990	117%	J	2001377, 2001378

Acceptable duplicate precision for non-aqueous samples is <50% RPD for results greater than two times the detection limit. The RPD was not calculated (NC) for Ancenaphthene; however, the results were qualified since was results was less than the detection limit and the other results was greater than two times the detection limit. All affected data were qualified accordingly.

# **Tentatively Identified Compounds**

No tentatively identified compounds were reported.

### **INORGANIC DATA REVIEW**

#### **REVIEW OF ELEMENTS**

Sample data were reviewed for the following parameters:

- Performance Evaluation Data
- Matrix Spike
- Agreement with Chain of Custody
- Field Duplicates
- Preservation and Technical Holding
- Laboratory Duplicates

Times

Furnace AA / Post Digestion Spike

Calibration Verification

Laboratory Control Sample

Blanks

- Serial Dilution Results
- ICP Interference Check Sample
- Detection Limit Results

#### **DISCUSSION**

#### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

A PE sample was not submitted with this data set.

# **Preservation and Holding Times**

All samples were properly preserved and analyzed within method-specified holding times.

#### **Calibration Verification**

Compliance requirements are evaluated to ensure that the instrument is capable of producing acceptable quantitative data.

All initial calibration verification (ICV) and continuing calibration verification (CCV) for all metals were analyzed at the appropriate frequency and were within control limits

#### Lab Fortified Blanks

Blank analyses were assessed to determine the existence and magnitude of contamination problems.

All analytes were within acceptance limit for percent recovery for the lab fortified blank analyses.

# **ICP Interference Check Sample**

The ICP interference check sample is evaluated to verify the laboratory's interelement and background correction factors.

All data met the QC acceptance criteria.

# Matrix Spike / Matrix Spike Duplicate

The matrix spike sample was evaluated to provide information about the effect of the sample matrix on the digestion and measurement methodology.

A MS/MSD was performed on sample 2001368. All analytes were within acceptance limits for % recovery (%R) and Relative Percent Difference (RPD) for the MS and MSD analyses with the exception of zinc which was estimated due to low MS %R (74.8%) and MSD %R (73.8%), the acceptance limits were 75-125%. All affected data were qualified accordingly.

# **Laboratory Duplicates**

All analytes were within acceptance limits for Relative Percent Difference for the laboratory duplicate analyses. Criteria for acceptable duplicate precision is less than 35% RPD for sample results that are greater than five times the CRDL and +/- 2X CRDL for sample results that are less than the five times the CRDL.

# **Field Duplicates**

Field duplicates were assessed to determine overall precision (i.e. field and laboratory precision).

Samples 2001377 and 2001378 were submitted as a field duplicate pair. The following table summarizes duplicate precision data:

Compound	Sample # 2001377 (mg/kg)	Duplicate # 2001378 (mg/kg)	RPD	Action	Affected Samples
Arsenic	2.5	1.7	38%	A	2001377, 2001378
Barium	30	30	0%	A	2001377, 2001378
Cadmium	.16	.24	40%	A	2001377, 2001378
Chromium	7.6	7.8	3%	A	2001377, 2001378
Copper	22	12	59%	J	2001377, 2001378
Lead	22	25	13%	Α	2001377, 2001378
Nickel	8.0	8.0	0%	A	2001377, 2001378
Zinc	70	62	12%	A	2001377, 2001378
Mercury	.045	.048	6%	Α	2001377, 2001378

Acceptable duplicate precision for non-aqueous samples is <50% RPD for results greater than two times the detection limit. All affected data were qualified accordingly.

# **Laboratory Control Sample**

The laboratory control sample is evaluated to assess the efficiency of the digestion procedure.

All data met the QC acceptance criteria for percent recovery (%R) criteria.

# GENERAL CHEMISTRY DATA REVIEW

General Chemistry data review includes review of analyses for Total Petroleum Hydrocarbons (TPH). There are currently no Region 1 functional guidelines for data validation of general chemistry parameters. Therefore, general chemistry data are evaluated based upon the QC requirements specified in the method by which they were analyzed.

#### REVIEW OF ELEMENTS

Sample data were reviewed for the following parameters:

- Performance Evaluation Sample Data
- Agreement with Chain of Custody
- Preservation and Holding Time
- Initial Calibration Verification
- Continuing Calibration Verification
- Blanks

- Matrix Spike
- Field Duplicates
- Laboratory Duplicates
- Laboratory Control Sample
- Detection Limit Results

#### **DISCUSSION**

### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

A PE sample was not submitted with this data set.

# **Preservation and Holding Times**

All samples analyzed for TPH were extracted within method-specified holding times.

#### **Initial Calibration Verification**

The initial calibration was analyzed at the appropriate frequency. The correlation coefficient for the initial calibration curve was greater than 0.9950. All initial calibration QC acceptance criteria were met.

# **Continuing Calibration Verification**

The continuing calibrations were analyzed at the appropriate frequency. The %Rs were within +/- 10% for all continuing calibration analyses. All QC acceptance criteria were met.

#### **Blanks**

No positive detects were reported in the associated method blanks. All QC acceptance criteria for the blanks were acceptable

#### Matrix Spike

The MS / MSD was within QC acceptance limits for TPH.

### **Field Duplicate**

Samples 2001377 and 2001378 were submitted as a field duplicate pair. The relative percent difference was not calculated since no detects were reported in either sample.

### **Laboratory Duplicate**

Laboratory precision was demonstrated through laboratory duplicate analysis. All sample duplicate results were within QC acceptance limits for duplicate RPD.

### **Laboratory Control Sample**

All QC acceptance criteria were met for LCS for TPH.

#### OVERALL EVALUATION OF THE DATA

The objective of the final evaluation of this data package is to identify the "analytical error" and any "sampling error" associated with the data. The sum of the "analytical error" and the "sampling error" equals the "measurement error." The end user should use the "measurement error" in conjunction with sampling variability to determine "total error" (total uncertainty) associated with the data. The data in this data package have been qualified as rejected (R) or estimated (J) depending upon the degree of analytical and / or sampling error. Ultimately, the end user should assess data usability in the context of the pre-determined Data Quality Objectives (DQOs) and resultant "total error" of the data.

Chloroethane was estimated due to low MS/MSD % recovery. Some SVOC data was estimated due to high RPD in the field duplicate analysis. Zinc was estimated due to low MS/MSD % recovery. Copper was estimated due to high RPD in the field duplicate analysis.

To the best of my knowledge, after thorough review of the attached sampling data and validation information, I believe that the data does show that the Performance Standards identified in Paragraph 16 of the Partial Consent Decree Relating to

Multiple Parties, Performance of Remedial Work and Cost Recovery have been met.

Authorized Pratt & Whitney Representative

Chatra M. Clauny



# Loureiro Engineering Associates, Inc.

To: From:

Brian Cutler / LEA
Tina Clemmey / LEA

DV Report Date:

11/30/01

Project Name:

Willow Brook Pond PCB Remediation

Sampled Date:

11/28/01

A Tier II data validation was performed on data for eight soil samples collected on November 28, 2001 for the Willow Brook Willow Pond PCB Remediation Project at Pratt & Whitney in East Hartford, Connecticut. The samples were collected from locations of the Site designated as WT-CS-03-035 through WT-CS-03-042. All samples were analyzed for PCBs by USEPA SW846 Method 8082.

The samples were submitted to Premier Laboratory, LLC in Brooklyn, CT. Premier processed and reported these samples under Project 88UT002-103. The internal laboratory lot number associated with this sample delivery group is E111C12. Samples 2001359 and 2001366 were analyzed within the analytical batch 11632.

The sample results were assessed according to Region 1, EPA Data Validation Functional Guidelines for Evaluating Environmental Analyses: Pesticides / PCBs, July 1988. Additional guidance and logic was obtained from the Functional Guidelines for Volatile / Semivolatile Data Validation Functional Guidelines, December 1996 when applicable. Technical judgement was also applied where applicable

The following tables have been included in this report: Table 1: Tier II Data

Assessment, Table 2: Samples associated with the sample delivery group (SDG), Table 3: Summary of Data Validation Qualifiers applied to samples as a result of the validation, Table 4: Summary of Qualified Analytical Results.

An explanation of the validation decisions is presented below.

#### **SAMPLES**

Samples included in this review are listed in Table 2 of this report.

#### **PCB ANALYSES**

#### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias. The frequency for performance evaluation samples for this project is one per twenty field samples.

A double blind aqueous performance evaluation sample (2001400) was submitted with this data set. The PE sample was prepared by Environmental Resource Associates (ERA). The ERA lot number associated with this sample was 1128-01-03.1. Aroclor 1254 was spiked into the sample at a concentration of 2.39 ug/l. The performance acceptance limit was 1.46-2.78 ug/l. The laboratory reported a concentration of 2.4 ug/l. QC acceptance criteria were met. Performance data is presented in Attachment 1 of this report.

#### Preservation and technical holding times

The validity of the analytical results is evaluated based on the preservation techniques used and the holding time of the sample, as appropriate.

The samples were extracted and analyzed within acceptable holding time. The sample temperature upon receipt was 9°C, which was outside the acceptance limit of 4°C +/-2°C. No qualification was applied based on sample temperature due to the logistics of the sample transport process. The trip from the Site to the laboratory is generally completed in approximately one hour. This issue does not impact data usability.

# Agreement with the Chain of Custody

Two samples were shipped to Premier Laboratory under chain of custody on 11/28/01. The samples were analyzed for PCBs by SW846 Method 8082. Samples were also submitted for "other" constituents. Validation of PCBs is discussed in this report. The validation of the "other" constituents is discussed under separate cover. No discrepancies were noted.

# **Initial Calibration and Continuing Calibration**

Compliance requirements for initial and continuing calibrations are evaluated to ensure that the instruments are capable of producing acceptable qualitative and quantitative data.

Initial calibration curves were performed on GC4 and GC8. Equal concentrations of a mixture of Aroclors 1016 and 1260 were used. Calibration factors were calculated at five concentrations. All percent relative standard deviations (%RSD) were less than 20%.

Continuing calibration verifications were performed on GC4 and GC8. Each continuing calibration standard consisted of a mixture of Aroclors 1016 and 1260 and was performed at a single concentration. The percent drift (%D) was less than 15%. QC acceptance criteria were met for the continuing calibration.

#### **Blanks**

Blank analyses data is to determine the existence and magnitude of contamination problems resulting from laboratory and / or field activities and to subsequently assess their contribution to measurement error

No detects were reported in the method blank.

# **Surrogate Compounds**

Sample matrix effects and laboratory performance on individual samples are assessed by evaluating surrogate recovery. Poor surrogate recovery can be an indication of Interfering matrix effects, presence of high concentration target and/or non-target analytes, and poor laboratory performance.

Surrogates tetrachloro-m-xylene and decachlorobiphenyl were spiked into every sample. QC acceptance criteria was met for percent recovery (%R) for both surrogates in all of the field samples, QC samples and blanks analyzed for PCBs.

### Matrix Spike / Matrix Spike Duplicate Analyses

Data for matrix spike / matrix spike duplicates were evaluated to determine laboratory precision and method bias for specific sample matrices.

A matrix spike / matrix spike duplicate was performed on sample 2001360 with this data set. All spiking compounds were diluted out, as the initial concentration in the unspiked sample was 18000 ug/kg. Percent recovery and relative percent difference could not be evaluated.

### **Laboratory Control Sample**

Laboratory control samples are evaluated to assess the internal quality control of the laboratory's analytical method accuracy and method bias.

All QC acceptance criteria were met for percent recovery (%R) for the LCS samples.

#### **Field Duplicate**

A field duplicate pair was not submitted with this data set.

#### OVERALL EVALUATION OF THE DATA

The objective of the final evaluation of this data package is to identify the "analytical error" and any "sampling error" associated with the data. The sum of the "analytical error" and the "sampling error" equals the "measurement error." The end user should use the "measurement error" in conjunction with sampling variability to determine "total error" (total uncertainty) associated with the data. Ultimately, the end user should assess data usability in the context of the pre-determined Data Quality Objectives (DQOs) and resultant "total error" of the data.

No data were qualified.

To the best of my knowledge, after thorough review of the attached sampling data and validation information, I believe that the data does show that the Performance Standards identified in the Remedial Action Work Plan have been met.

Authorized Pratt & Whitney Representative

Christia M. Clerry



# Loureiro Engineering Associates, Inc.

To:

Brian Cutler / LEA
Tina Clemmey / LEA

From:

01/29/02

Project Name:

DV Report Date:

Willow Brook Pond PCB Remediation

Sampled Date:

11/28/01

A Tier II data validation was performed on data for four soil samples collected on November 28, 2001 for the Willow Brook Willow Pond PCB Remediation Project at Pratt & Whitney in East Hartford, Connecticut.

The samples were submitted to Premier Laboratory, LLC in Brooklyn, CT. Premier processed and reported these samples under Project 88UT103. The internal laboratory lot number associated with this sample delivery group is E111C12.

The sample results were assessed according to Region 1, EPA Data Validation Functional Guidelines for Evaluating Environmental Analyses: Organic Data Review (December 1996), Pesticides / PCBs Data Review (July 1988) and Inorganic Data Review (February 1989) as appropriate. Chemistry parameters were validated using the same logic as presented in Region 1, EPA validation guidelines for other parameters where applicable. Since there is no official guidance at this time for validating general chemistry analyses. Technical judgement was applied when applicable and necessary.

The following tables have been included in this report: Table I: Summary of Tier II Data Assessment, Table II Samples associated with the sample delivery group (SDG),

Table III: Summary of Data Validation Qualifiers applied to samples as a result of the validation, and Table IV: Summary of Qualified Analytical Results.

An explanation of the validation decisions is presented below.

#### **SAMPLES**

Samples included in this review are listed in Table II of this report.

# **ORGANIC DATA REVIEW**

Organic data review includes review of analyses for volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs).

### **REVIEW OF ELEMENTS**

Sample data were reviewed for the following parameters:

<ul> <li>Performance Evaluation Sample Data</li> <li>Surrogate Compound</li> </ul>	ds
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- Agreement with Chain-of-Custody
   Internal Standards
- Preservation and Holding Time
   Matrix Spike / Matrix Spike Duplicate
- GC/MS Instrument Performance
   Laboratory Control Sample
   Check
- Initial and Continuing Calibration
   Practical Quantitation Limits
- Blanks
   Tentatively Identified compounds

#### DISCUSSION

### Agreement of Analyses with Chain of Custody

Sample reports are checked to verify that the reported results corresponded to analytical requests as detailed on the chain-of-custody record. The chain-of-custody form is reviewed for accuracy and completeness.

Samples were relinquished to Premier Laboratory, LLC under chain-of-custody on November 8 2001. The laboratory received the samples on November 28, 2001. During validation, the chain-of-custody form was reviewed for accuracy and completeness. No discrepancies were noted...

### **VOLATILE ORGANIC ANALYSES**

### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

A PE sample was not submitted with this data set.

#### Preservation and technical holding times

The validity of the analytical results is evaluated based on the preservation techniques used and the holding time of the sample, as appropriate.

The sample cooler temperature recorded by the laboratory was  $9.0^{\circ}$ C. The QC acceptance limit for sample temperature is  $2^{\circ}$ C  $-6^{\circ}$ C. Samples were not qualified

based on sample temperature since the time from sample collection to transport to receipt at the laboratory is very short. All samples were placed on ice and in addition, all VOC soil samples were preserved on site in methanol according to SW846 Method 5035. All samples were extracted and analyzed within method specified holding times.

#### GC/MS Instrument Performance Check

Gas chromatograph / mass spectrometer (GC/MS) instrument performance (tuning) checks are evaluated to ensure proper mass calibration and resolution, identification and to some degree sensitivity.

All ion abundance acceptance criteria specified in the methods for VOCs were met for each 12-hour period that samples were analyzed.

# Initial and Continuing Calibration

Compliance requirements for initial and continuing calibrations are evaluated to ensure that the instruments are capable of producing acceptable qualitative and quantitative data.

All VOC target compounds were within the QC acceptance criteria for the initial and continuing calibrations.

#### **Blanks**

Blank analyses data is to determine the existence and magnitude of contamination problems resulting from laboratory and / or field activities and to subsequently assess their contribution to measurement error

A trip blank (2001398) and all method blanks were evaluated for contamination for VOCs. No detects were reported.

### **Surrogate Compounds**

Sample matrix effects and laboratory performance on individual samples are assessed by evaluating surrogate recovery. Poor surrogate recovery can be an indication of Interfering matrix effects, presence of high concentration target and/or non-target analytes, and poor laboratory performance.

QC acceptance criteria was met for percent recovery (%R) for surrogates in all of the field samples, QC samples and blanks analyzed for VOCs.

#### **Internal Standards**

Instrument performance, stability and laboratory precision are evaluated by assessing internal standard area count recovery and retention time drift.

All VOC data for the QC acceptance criteria were met for internal standard (IS) area counts and retention times.

### Matrix Spike / Matrix Spike Duplicate Analyses

Data for matrix spike / matrix spike duplicates were evaluated to determine laboratory precision and method bias for specific sample matrices.

The laboratory performed a VOC matrix spike / matrix spike duplicate (MS/MSD) analyses on LEA soil sample 2001360. The following table summarizes data, which did not meet QC acceptance criteria:

Compound	%Rec MS	%Rec MSD	QC limits	RPD	Positive detects	NDs	Bias	Affected Samples
Chloroethane	45	44	60-142		J	J	Low	2001360

All affected data were qualified accordingly.

# **Laboratory Control Sample**

Laboratory control samples are evaluated to assess the internal quality control of the laboratory's analytical method accuracy and method bias.

All data met the QC acceptance criteria for percent recovery for the VOC laboratory control sample(s).

## Field Duplicate

A field duplicate pair was not submitted with this data set.

# **Tentatively Identified Compounds**

No tentatively identified compounds were reported.

### SEMIVOLATILE ORGANIC ANALYSES

#### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

A PE sample was not submitted with this data set.

# Preservation and technical holding times

The validity of the analytical results is evaluated based on the preservation techniques used and the holding time of the sample, as appropriate.

The sample cooler temperature recorded by the laboratory was  $9.0^{\circ}$ C. The QC acceptance limit for sample temperature is  $2^{\circ}$ C  $-6^{\circ}$ C. Samples were not qualified based on sample temperature since the time from sample collection to transport to receipt at the laboratory is very short. All samples were placed on ice according to SW846 Method 5035. All samples were extracted and analyzed within method specified holding times.

#### GC/MS Instrument Performance Check

Gas chromatograph / mass spectrometer (GC/MS) instrument performance (tuning) checks are evaluated to ensure proper mass calibration and resolution, identification and to some degree sensitivity.

All ion abundance acceptance criteria specified in the methods SVOCs were met for each 12-hour period that samples were analyzed.

#### **Initial and Continuing Calibration**

Compliance requirements for initial and continuing calibrations are evaluated to ensure that the instruments are capable of producing acceptable qualitative and quantitative data.

All SVOC target compounds were within the QC acceptance criteria for the initial and continuing calibrations.

#### **Blanks**

Blank analyses data is to determine the existence and magnitude of contamination problems resulting from laboratory and / or field activities and to subsequently assess their contribution to measurement error

All method blanks were evaluated for contamination for SVOCs. No detects were reported.

# **Surrogate Compounds**

Sample matrix effects and laboratory performance on individual samples are assessed by evaluating surrogate recovery. Poor surrogate recovery can be an indication of Interfering matrix effects, presence of high concentration target and/or non-target analytes, and poor laboratory performance.

QC acceptance criteria was met for percent recovery (%R) for surrogates in all of the field samples, QC samples and blanks analyzed for SVOCs.

### **Internal Standards**

Instrument performance, stability and laboratory precision are evaluated by assessing internal standard area count recovery and retention time drift.

The following table summarizes SVOC QC acceptance criteria that were not met for internal standard (IS) area counts and retention times:

Sample Number	Internal Standards	Area Counts	Ret. Time	Area counts QC Range	Ret.Time QC Range	Detect	Non- detect
2001366	Perylene-d12	274698	<b>22</b> .59	347232-1388930	22.11-23.11	J	UJ
2001366-RE	Perylene-d12	203135	22.60	347232-1388930	22.11-23.11	J	UJ
2001360	Chrysene-d12	527337	19.49	528256-2113026	18.98-19.98	J	UJ
2001360	Perylene-d12	194213	22.64	347232-1388930	22.11-23.11	J	UJ

2001360MS	Chrysene-d12	465656	19.49	528256-2113026	18.98-19.98	J	UJ
2001360MS	Perylene-d12	169481	22.64	347232-1388930	22.11-23.11	J	UJ
2001360MSD	Perylene-d12	224680	22.64	347232-1388930	22.11-23.11	J	UJ

All affected data were qualified accordingly.

# Matrix Spike / Matrix Spike Duplicate Analyses

Data for matrix spike / matrix spike duplicates were evaluated to determine laboratory precision and method bias for specific sample matrices.

The laboratory performed an SVOC matrix spike / matrix spike duplicate (MS/MSD) analyses on LEA soil sample 2001360. The following table summarizes data, which did not meet QC acceptance criteria:

Compound	%Rec MS	%Rec MSD	QC limits	% RPD	RPD	Positive detects	NDs	Bias	Affected Samples
Benzyl butyl phthalate	135	130	37-128			J	A	High	2001360
Benzo(g,h,i)perylene				55.5	38	J	J		2001360
2,4-Dinitrophenol	0	0	5-99			J	R	Low	2001360
Fluoranthene		12	16-192	148	24	J	R	Low	2001360
2-Methyl-4,6-dinitrophenol	0	0	5-109			J	R	Low	2001360
2-Nitroaniline	0	0	25-100			J	R	Low	2001360

3-Nitroaniline	0	103	17-98	200	40	J	R	Low	2001360
Phenanthrene			. "	120	80	1	J	High	2001360
Pyrene	171		20-160			J	A	High	2001360

All affected data were qualified accordingly.

# **Laboratory Control Sample**

Laboratory control samples are evaluated to assess the internal quality control of the laboratory's analytical method accuracy and method bias.

All data met the QC acceptance criteria for percent recovery for the SVOC laboratory control sample(s).

# Field Duplicate

A field duplicate pair was not submitted with this data set.

# **Tentatively Identified Compounds**

No tentatively identified compounds were reported.

# **INORGANIC DATA REVIEW**

### **REVIEW OF ELEMENTS**

Sample data were reviewed for the following parameters:

- Performance Evaluation Data
- Matrix Spike
- Agreement with Chain of Custody
- Field Duplicates

- Preservation and Technical Holding Times
- Laboratory Duplicates
- Furnace AA / Post Digestion Spike

Calibration Verification

Laboratory Control Sample

Blanks

- Serial Dilution Results
- ICP Interference Check Sample
- Detection Limit Results

#### DISCUSSION

#### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

A PE sample was not submitted with this data set.

#### **Preservation and Holding Times**

All samples were properly preserved and analyzed within method-specified holding times.

#### **Calibration Verification**

Compliance requirements are evaluated to ensure that the instrument is capable of producing acceptable quantitative data.

All initial calibration verification (ICV) and continuing calibration verification (CCV) for all metals were analyzed at the appropriate frequency and were within control limits

#### Lab Fortified Blanks

Blank analyses were assessed to determine the existence and magnitude of contamination problems.

All analytes were within acceptance limit for percent recovery for the lab fortified blank analyses.

# **ICP Interference Check Sample**

The ICP interference check sample is evaluated to verify the laboratory's interelement and background correction factors.

All data met the QC acceptance criteria.

# Matrix Spike / Matrix Spike Duplicate

The matrix spike sample was evaluated to provide information about the effect of the sample matrix on the digestion and measurement methodology.

A MS/MSD was performed on sample 2001338. The following table summarizes MS/MSD data that did not meet acceptance criteria:

Analyte	MS %R	MSD %R	%R QC Range	Detects	Non-detects	Samples Affected
Barium	64.8	56.2	75-125	J	UJ	All samples in data set
Chromium	37.8%	17.0%	75-125	J	R	All samples in data set
Copper		73.4%	75-125	J	UJ	All samples in data set

Nickel	38.0%	24.2%	75-125	J	R	All samples in data set
Lead	35.6%	22.4%	75-125	1	R	All samples in data set

All affected data were qualified accordingly.

# **Laboratory Duplicates**

All analytes were within acceptance limits for Relative Percent Difference for the laboratory duplicate analyses. Criteria for acceptable duplicate precision is less than 35% RPD for sample results that are greater than five times the CRDL and +/- 2X CRDL for sample results that are less than the five times the CRDL.

# **Field Duplicates**

Field duplicates were assessed to determine overall precision (i.e. field and laboratory precision).

A field duplicate pair was not submitted with this data set.

### **Laboratory Control Sample**

The laboratory control sample is evaluated to assess the efficiency of the digestion procedure.

All data met the QC acceptance criteria for percent recovery (%R) criteria.

#### **GENERAL CHEMISTRY DATA REVIEW**

General Chemistry data review includes review of analyses for Total Petroleum Hydrocarbons (TPH). There are currently no Region 1 functional guidelines for data

validation of general chemistry parameters. Therefore, general chemistry data are evaluated based upon the QC requirements specified in the method by which they were analyzed.

#### REVIEW OF ELEMENTS

Sample data were reviewed for the following parameters:

- Performance Evaluation Sample Data
- Agreement with Chain of Custody
- Preservation and Holding Time
- Initial Calibration Verification
- Continuing Calibration Verification
- Blanks

- Matrix Spike
- Field Duplicates
- Laboratory Duplicates
- Laboratory Control Sample
- Detection Limit Results

#### **DISCUSSION**

#### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

A PE sample was not submitted with this data set.

### **Preservation and Holding Times**

All samples analyzed for TPH were extracted within method-specified holding times.

#### **Initial Calibration Verification**

The initial calibration was analyzed at the appropriate frequency. The correlation coefficient for the initial calibration curve was greater than 0.9950. All initial calibration QC acceptance criteria were met.

## **Continuing Calibration Verification**

The continuing calibrations were analyzed at the appropriate frequency. The %Rs were within +/- 10% for all continuing calibration analyses. All QC acceptance criteria were met.

#### **Blanks**

No positive detects were reported in the associated method blanks. All QC acceptance criteria for the blanks were acceptable

### **Matrix Spike**

The MS / MSD was within QC acceptance limits for TPH.

#### **Field Duplicate**

A field duplicate pair was not submitted with this data set.

# **Laboratory Duplicate**

Laboratory precision was demonstrated through laboratory duplicate analysis. All sample duplicate results were within QC acceptance limits for duplicate RPD.

# **Laboratory Control Sample**

All QC acceptance criteria were met for LCS for TPH.

### OVERALL EVALUATION OF THE DATA

The objective of the final evaluation of this data package is to identify the "analytical error" and any "sampling error" associated with the data. The sum of the "analytical error" and the "sampling error" equals the "measurement error." The end user should use the "measurement error" in conjunction with sampling variability to determine "total error" (total uncertainty) associated with the data. The data in this data package have been qualified as rejected (R) or estimated (J) depending upon the degree of analytical and / or sampling error. Ultimately, the end user should assess data usability in the context of the pre-determined Data Quality Objectives (DQOs) and resultant "total error" of the data.

Chloroethane was estimated due to low MS/MSD % recovery. SVOC internal standard Perylene-d12 was estimated for samples 2001360 and 2001366 due to low area counts. SVOC internal standard Chrysene-d12 was estimated for sample 2001360 due to low area counts. In sample 2001360, some SVOC compounds were estimated due to high %RPD and /or low / high MS/MSD %R. In sample 2001360, some SVOC compounds were rejected due to low MS/MSD %R. Some metal compounds were estimated due to low MS/MSD %R.

To the best of my knowledge, after thorough review of the attached sampling data and validation information, I believe that the data does show that the Performance Standards identified in Paragraph 16 of the Partial Consent Decree Relating to Multiple Parties, Performance of Remedial Work and Cost Recovery have been met.

Authorized Pratt & Whitney Representative

Christia M. Claury



Loureiro Engineering Associates, Inc.

To:

Brian Cutler / LEA

From:

Tina Clemmey / LEA

DV Report Date:

11/30/01

Project Name:

Willow Brook Pond PCB Remediation

Sampled Date:

11/28/01

A Tier II data validation was performed on data for 18 soil samples collected on November 28, 2001 for the Willow Brook Willow Pond PCB Remediation Project at Pratt & Whitney in East Hartford, Connecticut. The samples were collected from locations of the Site designated as WT-CS-02-033 through WT-CS-02-048. All samples were analyzed for PCBs by USEPA SW846 Method 8082.

The samples were submitted to Premier Laboratory, LLC in Brooklyn, CT. Premier processed and reported these samples under Project 88UT002-103. The internal laboratory lot number associated with this sample delivery group is E111B35. Samples 2001367 and 2001384 were analyzed within the analytical batch 11619.

The sample results were assessed according to Region 1, EPA Data Validation Functional Guidelines for Evaluating Environmental Analyses: Pesticides / PCBs, July 1988. Additional guidance and logic was obtained from the Functional Guidelines for Volatile / Semivolatile Data Validation Functional Guidelines, December 1996 when applicable. Technical judgement was also applied where applicable

The following tables have been included in this report: Table 1: Tier II Data

Assessment, Table 2: Samples associated with the sample delivery group (SDG), Table 3: Summary of Data Validation Qualifiers applied to samples as a result of the validation, Table 4: Summary of Qualified Analytical Results.

An explanation of the validation decisions is presented below.

### **SAMPLES**

Samples included in this review are listed in Table 2 of this report.

### PCB ANALYSES

#### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias. The frequency for performance evaluation samples for this project is one per twenty field samples.

A double blind aqueous performance evaluation sample was not submitted with this data set.

#### Preservation and technical holding times

The validity of the analytical results is evaluated based on the preservation techniques used and the holding time of the sample, as appropriate.

The samples were extracted and analyzed within acceptable holding time. The sample temperature upon receipt was 10.0°C, which was outside the acceptance limit of 4°C +/- 2°C. No qualification was applied based on sample temperature. The sample collection and transport process is completed in a very short timeframe for this project. The field sampler often completes the sampling event while the courier is waiting.

The samples are placed in the cooler at ambient temperature as they are collected and transferred to the courier. Since the trip from the site to the lab is generally completed in less than one hour, there is not sufficient time for the samples to cool to 4°C. This issue does not impact data usability.

### Agreement with the Chain of Custody

Nineteen samples were shipped to Premier Laboratory under chain of custody on 11/28/01. Analyses were requested for PCBs and "other" parameters. Validation for samples analyzed for PCBs only are discussed in this validation report. Validation for "other" parameters is discussed under separate cover. The samples were analyzed for PCBs by SW846 Method 8082. No discrepancies were noted.

### **Initial Calibration and Continuing Calibration**

Compliance requirements for initial and continuing calibrations are evaluated to ensure that the instruments are capable of producing acceptable qualitative and quantitative data.

Initial calibration curves were performed on GC4 and GC8. Equal concentrations of a mixture of Aroclors 1016 and 1260 were used. Calibration factors were calculated at five concentrations. All percent relative standard deviations (%RSD) were less than 20%.

Continuing calibration verifications were performed on GC4 and GC8. Each continuing calibration standard consisted of a mixture of Aroclors 1016 and 1260 and was performed at a single concentration. The percent drift (%D) was less than 15%. QC acceptance criteria were met for the continuing calibration.

#### **Blanks**

Blank analyses data is to determine the existence and magnitude of contamination problems resulting from laboratory and / or field activities and to subsequently assess their contribution to measurement error

No detects were reported in the method blank.

### **Surrogate Compounds**

Sample matrix effects and laboratory performance on individual samples are assessed by evaluating surrogate recovery. Poor surrogate recovery can be an indication of Interfering matrix effects, presence of high concentration target and/or non-target analytes, and poor laboratory performance.

Surrogates tetrachloro-m-xylene and decachlorobiphenyl were spiked into every sample. QC acceptance criteria was met for percent recovery (%R) for both surrogates in all of the field samples, QC samples and blanks analyzed for PCBs.

# Matrix Spike / Matrix Spike Duplicate Analyses

Data for matrix spike / matrix spike duplicates were evaluated to determine laboratory precision and method bias for specific sample matrices.

A matrix spike / matrix spike duplicate was performed on sample 2001384 with this data set. Percent recovery was not evaluated since all spike concentrations were diluted out. A matrix spike / matrix spike duplicate was also performed on sample 2001368 with this data set. All QC acceptance criteria were met.

#### **Laboratory Control Sample**

Laboratory control samples are evaluated to assess the internal quality control of the laboratory's analytical method accuracy and method bias.

All QC acceptance criteria were met for percent recovery (%R) for the LCS samples.

### **Field Duplicate**

Samples 2001371 / 2001372 and 2001377 / 2001378 were submitted as field duplicate pairs. The relative percent differences (RPDs) were not calculated since the results were all non-detected.

### OVERALL EVALUATION OF THE DATA

The objective of the final evaluation of this data package is to identify the "analytical error" and any "sampling error" associated with the data. The sum of the "analytical error" and the "sampling error" equals the "measurement error." The end user should use the "measurement error" in conjunction with sampling variability to determine "total error" (total uncertainty) associated with the data. Ultimately, the end user should assess data usability in the context of the pre-determined Data Quality Objectives (DQOs) and resultant "total error" of the data.

No data were qualified.

To the best of my knowledge, after thorough review of the attached sampling data and validation information, I believe that the data does show that the Performance Standards identified in the Remedial Action Work Plan have been met.

Authorized Pratt & Whitney Representative

Christia M. Claury



# Loureiro Engineering Associates, Inc.

To:

Brian Cutler / LEA

From:

Tina Clemmey / LEA

DV Report Date:

11/30/01

Project Name:

Willow Brook Pond PCB Remediation

Sampled Date:

11/27/01

A Tier II data validation was performed on data for eight confirmational soil samples collected on November 27, 2001 for the Willow Brook Willow Pond PCB Remediation Project at Pratt & Whitney in East Hartford, Connecticut. A double blind performance evaluation sample (2001331) was submitted with this data set. Samples were collected from locations of the Site designated as WT-CS-03-019 through WT-CS-03-026. All samples were analyzed for PCBs by USEPA SW846 Method 8082.

The samples were submitted to Premier Laboratory, LLC in Brooklyn, CT. Premier processed and reported these samples under Project 88UT002-103. The internal laboratory lot number associated with this sample delivery group is E111A64. Samples 2001322 through 2001329 were analyzed within the analytical batch 11587. The performance evaluation sample (2001331) was analyzed with batch 11610.

The sample results were assessed according to Region 1, EPA Data Validation Functional Guidelines for Evaluating Environmental Analyses: Pesticides / PCBs, July 1988. Additional guidance and logic was obtained from the Functional Guidelines for Volatile / Semivolatile Data Validation Functional Guidelines, December 1996 when applicable. Technical judgement was also applied where

applicable

The following tables have been included in this report: Table 1: Tier II Data Assessment, Table 2: Samples associated with the sample delivery group (SDG), Table 3: Summary of Data Validation Qualifiers applied to samples as a result of the validation, Table 4: Summary of Qualified Analytical Results.

An explanation of the validation decisions is presented below.

#### **SAMPLES**

Samples included in this review are listed in Table 2 of this report.

### PCB ANALYSES

#### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias. The frequency for performance evaluation samples for this project is one per twenty field samples.

A double blind aqueous performance evaluation sample (2001331) was submitted with this data set. The PE sample was prepared by Environmental Resource Associates (ERA). The ERA lot number associated with this sample was 1120-01-02.2. Aroclor 1254 was spiked into the sample at a concentration of 7.17 ug/l. The performance acceptance limit was 4.36-8.34 ug/l. The laboratory reported a concentration of 6.2 ug/l. QC acceptance criteria were met. Performance data is presented in Attachment 1 of this report.

### Preservation and technical holding times

The validity of the analytical results is evaluated based on the preservation techniques used and the holding time of the sample, as appropriate.

All soil samples were extracted and analyzed within acceptable holding time. The sample temperature upon receipt was 13.7°C, which was outside the acceptance limit of 4°C +/- 2°C. No qualification was applied based on sample temperature. The courier is often waiting for sample collection to be completed and therefore the samples are often at ambient temperature. Since the trip from the Site to the laboratory is generally completed in approximately one hour, the samples do not have sufficient time to lower to 4°C. This issue does not impact data usability.

# Agreement with the Chain of Custody

Samples are included on the chain of custody for parameters other than PCBs. Only the PCB data is discussed in this validation report. The other parameters are discussed under separate cover. No discrepancies were noted.

#### **Initial Calibration and Continuing Calibration**

Compliance requirements for initial and continuing calibrations are evaluated to ensure that the instruments are capable of producing acceptable qualitative and quantitative data.

Initial calibration curves were performed on GC4 and GC8. Equal concentrations of a mixture of Aroclors 1016 and 1260 were used. Calibration factors were calculated at five concentrations. All percent relative standard deviations (%RSD) were less than 20%.

Continuing calibration verifications were performed on GC4 and GC8. Each continuing calibration standard consisted of a mixture of Aroclors 1016 and 1260 and was performed at a single concentration. The percent drift (%D) was less than 15%. QC acceptance criteria were met for the continuing calibration.

#### **Blanks**

Blank analyses data is to determine the existence and magnitude of contamination problems resulting from laboratory and / or field activities and to subsequently assess their contribution to measurement error

No detects were reported in the method blank.

### **Surrogate Compounds**

Sample matrix effects and laboratory performance on individual samples are assessed by evaluating surrogate recovery. Poor surrogate recovery can be an indication of Interfering matrix effects, presence of high concentration target and/or non-target analytes, and poor laboratory performance.

Surrogates tetrachloro-m-xylene and decachlorobiphenyl were spiked into every sample. QC acceptance criteria was met for percent recovery (%R) for both surrogates in all of the field samples, QC samples and blanks analyzed for PCBs.

### Matrix Spike / Matrix Spike Duplicate Analyses

Data for matrix spike / matrix spike duplicates were evaluated to determine laboratory precision and method bias for specific sample matrices.

The laboratory performed a PCB matrix spike / matrix spike duplicate (MS/MSD) analyses on LEA soil sample 2001323. Aroclors 1016 and 1260 were spiked into the field sample. One peak for 1016 (PK2) in the MS was above the acceptance range for % Recovery. The laboratory control sample associated with sample was in control; all surrogates were in control in unspiked sample, the MS and the MSD. All Aroclor results in the unspiked sample were reported as non-detect. The results of the unspiked sample were accepted as reported.

# **Laboratory Control Sample**

Laboratory control samples are evaluated to assess the internal quality control of the laboratory's analytical method accuracy and method bias.

All QC acceptance criteria were met for percent recovery (%R) for the LCS samples.

# Field Duplicate

A field duplicate pair was not submitted with this data set.

# OVERALL EVALUATION OF THE DATA

The objective of the final evaluation of this data package is to identify the "analytical error" and any "sampling error" associated with the data. The sum of the "analytical error" and the "sampling error" equals the "measurement error." The end user should use the "measurement error" in conjunction with sampling variability to determine "total error" (total uncertainty) associated with the data. Ultimately, the end user should assess data usability in the context of the pre-determined Data Quality Objectives (DQOs) and resultant "total error" of the data.

No data were qualified.

To the best of my knowledge, after thorough review of the attached sampling data and validation information, I believe that the data does show that the Performance Standards identified in the Remedial Action Work Plan have been met.

Authorized Pratt & Whitney Representative

Christia N. Claring



# Loureiro Engineering Associates, Inc.

To:

Brian Cutler / LEA

From:

Tina Clemmey / LEA

DV Report Date:

01/21/02

Project Name:

Willow Brook Pond PCB Remediation

Sampled Date:

11/27/01

A Tier II data validation was performed on data for four soil samples collected on November 27, 2001 for the Willow Brook Willow Pond PCB Remediation Project at Pratt & Whitney in East Hartford, Connecticut.

The samples were submitted to Premier Laboratory, LLC in Brooklyn, CT. Premier processed and reported these samples under Project 88UT103. The internal laboratory lot number associated with this sample delivery group is E111A64.

The sample results were assessed according to Region 1, EPA Data Validation Functional Guidelines for Evaluating Environmental Analyses: Organic Data Review (December 1996), Pesticides / PCBs Data Review (July 1988) and Inorganic Data Review (February 1989) as appropriate. Chemistry parameters were validated using the same logic as presented in Region 1, EPA validation guidelines for other parameters where applicable. Since there is no official guidance at this time for validating general chemistry analyses. Technical judgement was applied when applicable and necessary.

The following tables have been included in this report: Table I: Summary of Tier II Data Assessment, Table II Samples associated with the sample delivery group (SDG),

Table III: Summary of Data Validation Qualifiers applied to samples as a result of the validation, and Table IV: Summary of Qualified Analytical Results.

An explanation of the validation decisions is presented below.

#### **SAMPLES**

Samples included in this review are listed in Table II of this report.

### **ORGANIC DATA REVIEW**

Organic data review includes review of analyses for volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs).

#### **REVIEW OF ELEMENTS**

Sample data were reviewed for the following parameters:

=	Performance Evaluation	Sample Data	•	Surrogate Compounds
_	I CHOITHANCE EVALUATION	Sample Data	_	Surrogaic Compounds

- Agreement with Chain-of-Custody
   Internal Standards
- Preservation and Holding Time
   Matrix Spike / Matrix Spike Duplicate
- GC/MS Instrument Performance
   Laboratory Control Sample
   Check
- Initial and Continuing Calibration
   Practical Quantitation Limits
- Blanks
   Tentatively Identified compounds

#### DISCUSSION

### Agreement of Analyses with Chain of Custody

Sample reports are checked to verify that the reported results corresponded to analytical requests as detailed on the chain-of-custody record. The chain-of-custody form is reviewed for accuracy and completeness.

Samples were relinquished to Premier Laboratory, LLC under chain-of-custody on November 27, 2001. The laboratory received the samples on November 27, 2001. During validation, the chain-of-custody form was reviewed for accuracy and completeness. No discrepancies were noted...

## **VOLATILE ORGANIC ANALYSES**

#### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

Seventeen VOCs were spiked into the sample. All PE data were within vendor-certified acceptance limits.

# Preservation and technical holding times

The validity of the analytical results is evaluated based on the preservation techniques used and the holding time of the sample, as appropriate.

The sample cooler temperature recorded by the laboratory was 13.7°C. The QC

acceptance limit for sample temperature is  $2^{\circ}\text{C} - 6^{\circ}\text{C}$ . Samples were not qualified based on sample temperature since the time from sample collection to transport to receipt at the laboratory is very short. All samples were placed on ice and in addition, all VOC soil samples were preserved on site in methanol according to SW846 Method 5035. All samples were extracted and analyzed within method specified holding times.

#### **GC/MS Instrument Performance Check**

Gas chromatograph / mass spectrometer (GC/MS) instrument performance (tuning) checks are evaluated to ensure proper mass calibration and resolution, identification and to some degree sensitivity.

All ion abundance acceptance criteria specified in the methods for VOCs were met for each 12-hour period that samples were analyzed.

### **Initial and Continuing Calibration**

Compliance requirements for initial and continuing calibrations are evaluated to ensure that the instruments are capable of producing acceptable qualitative and quantitative data.

All VOC target compounds were within the QC acceptance criteria for the initial and continuing calibrations.

#### **Blanks**

Blank analyses data is to determine the existence and magnitude of contamination problems resulting from laboratory and / or field activities and to subsequently assess their contribution to measurement error

A trip blank (2001330) and all method blanks were evaluated for contamination for

VOCs. No detects were reported.

# **Surrogate Compounds**

Sample matrix effects and laboratory performance on individual samples are assessed by evaluating surrogate recovery. Poor surrogate recovery can be an indication of Interfering matrix effects, presence of high concentration target and/or non-target analytes, and poor laboratory performance.

QC acceptance criteria was met for percent recovery (%R) for surrogates in all of the field samples, QC samples and blanks analyzed for VOCs.

Alll VOC data met the QC acceptance criteria.

### **Internal Standards**

Instrument performance, stability and laboratory precision are evaluated by assessing internal standard area count recovery and retention time drift.

All VOC data for the QC acceptance criteria were met for internal standard (IS) area counts and retention times.

### Matrix Spike / Matrix Spike Duplicate Analyses

Data for matrix spike / matrix spike duplicates were evaluated to determine laboratory precision and method bias for specific sample matrices.

The laboratory performed a VOC matrix spike / matrix spike duplicate (MS/MSD) analyses on LEA soil sample 2001323. The following table summarizes data, which did not meet QC acceptance criteria:

Compound	%Rec MS	%Rec MSD	QC limits	RPD	Positive detects	NDs	Bias	Affected Samples
Chloroethane	48	48	60-142		J	J	Low	2001323

All affected data were qualified accordingly.

# **Laboratory Control Sample**

Laboratory control samples are evaluated to assess the internal quality control of the laboratory's analytical method accuracy and method bias.

All data met the QC acceptance criteria for percent recovery for the VOC laboratory control sample(s).

# Field Duplicate

A field duplicate pair was not submitted with this data set.

# **Tentatively Identified Compounds**

No tentatively identified compounds were reported.

# SEMIVOLATILE ORGANIC ANALYSES

#### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

Twenty-nine SVOCs were spiked into the sample. The following table summarizes the following table summarizes the PE data that were not within vendor-certified acceptance limits:

Compound	Reported Concentration (ug/L)	Certified value (ug/L)	Acceptance Limits (ug/L)	Positive Detects	NDs	Bias	Affected Samples
Benxo(a)anthracene	18	37.0	24.8-39.5	J	J	Low	All samples in data set
Benzo(b)fluoranthene	18	41:4	21.3-49.8	J	J	Low	All samples in data set
Benzo(a)pyrene	8.8	20.0	9.42-22.9	J	J	Low	All samples in data set
Chrysene	22	48.6	277-56.0	J	J	Low	All samples in data set
Bis(2- Ethylhexyl)phthalate	21	44.1	24.2-55.6	J	J	Low	All samples in data set
Hexachlorobenzene	33	70.0	40.6-80.5	J	J	Low	All samples in data set

All affected data were qualified accordingly.

### Preservation and technical holding times

The validity of the analytical results is evaluated based on the preservation techniques used and the holding time of the sample, as appropriate.

The sample cooler temperature recorded by the laboratory was  $13.7^{\circ}$ C. The QC acceptance limit for sample temperature is  $2^{\circ}$ C  $-6^{\circ}$ C. Samples were not qualified based on sample temperature since the time from sample collection to transport to receipt at the laboratory is very short. All samples were placed on ice and in addition, all VOC soil samples were preserved on site in methanol according to SW846 Method 5035. All samples were extracted and analyzed within method specified holding

times.

#### **GC/MS Instrument Performance Check**

Gas chromatograph / mass spectrometer (GC/MS) instrument performance (tuning) checks are evaluated to ensure proper mass calibration and resolution, identification and to some degree sensitivity.

All ion abundance acceptance criteria specified in the methods SVOCs were met for each 12-hour period that samples were analyzed.

# **Initial and Continuing Calibration**

Compliance requirements for initial and continuing calibrations are evaluated to ensure that the instruments are capable of producing acceptable qualitative and quantitative data.

All SVOC target compounds were within the QC acceptance criteria for the initial and continuing calibrations.

#### **Blanks**

Blank analyses data is to determine the existence and magnitude of contamination problems resulting from laboratory and / or field activities and to subsequently assess their contribution to measurement error

All method blanks were evaluated for contamination for SVOCs. No detects were reported.

## **Surrogate Compounds**

Sample matrix effects and laboratory performance on individual samples are assessed by evaluating surrogate recovery. Poor surrogate recovery can be

an indication of Interfering matrix effects, presence of high concentration target and/or non-target analytes, and poor laboratory performance.

QC acceptance criteria was met for percent recovery (%R) for surrogates in all of the field samples, QC samples and blanks analyzed for SVOCs.

# **Internal Standards**

Instrument performance, stability and laboratory precision are evaluated by assessing internal standard area count recovery and retention time drift.

All SVOC QC acceptance criteria were met for internal standard (IS) area counts and retention times.

## Matrix Spike / Matrix Spike Duplicate Analyses

Data for matrix spike / matrix spike duplicates were evaluated to determine laboratory precision and method bias for specific sample matrices.

The laboratory performed an SVOC matrix spike / matrix spike duplicate (MS/MSD) analyses on LEA soil sample 2001323. All data met the QC acceptance criteria.

### **Laboratory Control Sample**

Laboratory control samples are evaluated to assess the internal quality control of the laboratory's analytical method accuracy and method bias.

All data met the QC acceptance criteria for percent recovery for the SVOC laboratory control sample(s).

## **Field Duplicate**

A field duplicate pair ws not submitted with this data set.

# **Tentatively Identified Compounds**

No tentatively identified compounds were reported.

### **INORGANIC DATA REVIEW**

### **REVIEW OF ELEMENTS**

Sample data were reviewed for the following parameters:

Performance Evaluation Data	•	Matrix Spike
Performance Evaluation Data	•	Matrix Spike

- Agreement with Chain of Custody
   Field Duplicates
- Preservation and Technical Holding
   Laboratory Duplicates
   Times

Furnace AA / Post Digestion Spike

- Calibration Verification
   Laboratory Control Sample
- Blanks Serial Dilution Results
- ICP Interference Check Sample
   Detection Limit Results

### **DISCUSSION**

### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

Eleven metals and cyanide were spiked into the sample. All PE data were within vendor-certified acceptance limits.

# **Preservation and Holding Times**

All samples were properly preserved and analyzed within method-specified holding times.

### **Calibration Verification**

Compliance requirements are evaluated to ensure that the instrument is capable of producing acceptable quantitative data.

All initial calibration verification (ICV) and continuing calibration verification (CCV) for all metals were analyzed at the appropriate frequency and were within control limits

#### Lab Fortified Blanks

Blank analyses were assessed to determine the existence and magnitude of contamination problems.

All analytes were within acceptance limit for percent recovery for the lab fortified blank analyses. Mercury was estimated due to low % recovery (50.7%). All affected data were qualified accordingly.

# **ICP Interference Check Sample**

The ICP interference check sample is evaluated to verify the laboratory's interelement and background correction factors.

All data met the QC acceptance criteria.

## Matrix Spike / Matrix Spike Duplicate

The matrix spike sample was evaluated to provide information about the effect of the sample matrix on the digestion and measurement methodology.

A MS/MSD was performed on sample 2001323. All analytes were within acceptance limits for % recovery (%R) and Relative Percent Difference (RPD) for the MS and MSD analyses.

### **Laboratory Duplicates**

All analytes were within acceptance limits for Relative Percent Difference for the laboratory duplicate analyses. Criteria for acceptable duplicate precision is less than 35% RPD for sample results that are greater than five times the CRDL and +/- 2X CRDL for sample results that are less than the five times the CRDL.

### **Field Duplicates**

Field duplicates were assessed to determine overall precision (i.e. field and laboratory precision).

A field duplicate was not submitted with this data set. Field duplicates are submitted at a frequency of one per twenty samples and are tracked on an on-going basis.

### **Laboratory Control Sample**

The laboratory control sample is evaluated to assess the efficiency of the digestion procedure.

All data met the QC acceptance criteria for percent recovery (%R) criteria.

## **GENERAL CHEMISTRY DATA REVIEW**

General Chemistry data review includes review of analyses for Total Petroleum Hydrocarbons (TPH). There are currently no Region 1 functional guidelines for data validation of general chemistry parameters. Therefore, general chemistry data are evaluated based upon the QC requirements specified in the method by which they were analyzed.

## **REVIEW OF ELEMENTS**

Sample data were reviewed for the following parameters:

- Performance Evaluation Sample Data
- Agreement with Chain of Custody
- Preservation and Holding Time
- Initial Calibration Verification
- Continuing Calibration Verification
- Blanks

- Matrix Spike
- Field Duplicates
- Laboratory Duplicates
- Laboratory Control Sample
- Detection Limit Results

#### **DISCUSSION**

### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

The following table summarizes performance data that did not meet vendor certified acceptance criteria:

Compound	Reported Concentration (mg/L)	Certified value (ug/L)	Acceptance Limits (ug/L)	Positive Detects	NDs	Bias	Affected Samples
ТРН	10.0	6.93	4.16-8.66	J	A	High	All samples in data set

All data were qualified accordingly.

# **Preservation and Holding Times**

All samples analyzed for TPH were extracted within method-specified holding times.

### **Initial Calibration Verification**

The initial calibration was analyzed at the appropriate frequency. The correlation coefficient for the initial calibration curve was greater than 0.9950. All initial calibration QC acceptance criteria were met.

## **Continuing Calibration Verification**

The continuing calibrations were analyzed at the appropriate frequency. The %Rs were within +/- 10% for all continuing calibration analyses. All QC acceptance criteria were met.

### **Blanks**

No positive detects were reported in the associated method blanks. All QC acceptance criteria for the blanks were acceptable

## **Matrix Spike**

The MS / MSD was within QC acceptance limits for TPH.

## Field Duplicate

A field duplicate pair was not submitted with this data set.

## **Laboratory Duplicate**

Laboratory precision was demonstrated through laboratory duplicate analysis. All sample duplicate results were within QC acceptance limits for duplicate RPD.

## **Laboratory Control Sample**

All QC acceptance criteria were met for LCS for TPH.

## OVERALL EVALUATION OF THE DATA

The objective of the final evaluation of this data package is to identify the "analytical error" and any "sampling error" associated with the data. The sum of the "analytical error" and the "sampling error" equals the "measurement error." The end user should use the "measurement error" in conjunction with sampling variability to determine "total error" (total uncertainty) associated with the data. The data in this data package have been qualified as rejected (R) or estimated (J) depending upon the degree of analytical and / or sampling error. Ultimately, the end user should assess data usability in the context of the pre-determined Data Quality Objectives (DQOs) and resultant "total error" of the data.

Chloroethane was estimated due to low MS/MSD % recovery. Mercury was estimated due to low LFB % recovery.

To the best of my knowledge, after thorough review of the attached sampling data and validation information, I believe that the data does show that the Performance Standards identified in Remedial Action Work Plan.

Authorized Pratt & Whitney Representative

Chistina M. Cleany



### Loureiro Engineering Associates, Inc.

To: From:

Brian Cutler / LEA
Tina Clemmey / LEA

DV Report Date:

11/29/01

Project Name:

Willow Brook Pond PCB Remediation

Sampled Date:

11/27/01

A Tier II data validation was performed on data for ten soil samples collected on November 27, 2001 for the Willow Brook Willow Pond PCB Remediation Project at Pratt & Whitney in East Hartford, Connecticut. The samples were collected from locations of the Site designated as WT-CS-03-027 through WT-CS-03-034. All samples were analyzed for PCBs by USEPA SW846 Method 8082.

The samples were submitted to Premier Laboratory, LLC in Brooklyn, CT. Premier processed and reported these samples under Project 88UT002-103. The internal laboratory lot number associated with this sample delivery group is E111A87. Samples 2001337 and 2001445 were analyzed within the analytical batch 11619.

The sample results were assessed according to Region 1, EPA Data Validation Functional Guidelines for Evaluating Environmental Analyses: Pesticides / PCBs, July 1988. Additional guidance and logic was obtained from the Functional Guidelines for Volatile / Semivolatile Data Validation Functional Guidelines, December 1996 when applicable. Technical judgement was also applied where applicable

The following tables have been included in this report: Table 1: Tier II Data

Assessment, Table 2: Samples associated with the sample delivery group (SDG), Table 3: Summary of Data Validation Qualifiers applied to samples as a result of the validation, Table 4: Summary of Qualified Analytical Results.

An explanation of the validation decisions is presented below.

#### **SAMPLES**

Samples included in this review are listed in Table 2 of this report.

### **PCB ANALYSES**

#### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias. The frequency for performance evaluation samples for this project is one per twenty field samples.

A double blind aqueous performance evaluation sample (2001358) was submitted with this data set. The PE sample was prepared by Environmental Resource Associates (ERA). The ERA lot number associated with this sample was 1120-01-02.1. Aroclor 1254 was spiked into the sample at a concentration of 7.17 ug/l. The performance acceptance limit was 1.76-3.45 ug/l. The laboratory reported a concentration of 2.5 ug/l. QC acceptance criteria were met. Performance data is presented in Attachment 1 of this report.

### Preservation and technical holding times

The validity of the analytical results is evaluated based on the preservation techniques used and the holding time of the sample, as appropriate.

The samples were extracted and analyzed within acceptable holding time. The sample temperature upon receipt was 10.3°C, which was outside the acceptance limit of 4°C +/- 2°C. No qualification was applied based on sample temperature due to the logistics of the sample transport process. The trip from the Site to the laboratory is generally completed in less than one hour. This issue does not impact data usability.

# Agreement with the Chain of Custody

Twelve samples were shipped to Premier Laboratory under chain of custody on 11/28/01. The samples were analyzed for PCBs by SW846 Method 8082. No discrepancies were noted.

## **Initial Calibration and Continuing Calibration**

Compliance requirements for initial and continuing calibrations are evaluated to ensure that the instruments are capable of producing acceptable qualitative and quantitative data.

Initial calibration curves were performed on GC4 and GC8. Equal concentrations of a mixture of Aroclors 1016 and 1260 were used. Calibration factors were calculated at five concentrations. All percent relative standard deviations (%RSD) were less than 20%.

Continuing calibration verifications were performed on GC4 and GC8. Each continuing calibration standard consisted of a mixture of Aroclors 1016 and 1260 and was performed at a single concentration. The percent drift (%D) was less than 15%. QC acceptance criteria were met for the continuing calibration.

### **Blanks**

Blank analyses data is to determine the existence and magnitude of contamination problems resulting from laboratory and / or field activities and to subsequently assess their contribution to measurement error

No detects were reported in the method blank.

## **Surrogate Compounds**

Sample matrix effects and laboratory performance on individual samples are assessed by evaluating surrogate recovery. Poor surrogate recovery can be an indication of Interfering matrix effects, presence of high concentration target and/or non-target analytes, and poor laboratory performance.

Surrogates tetrachloro-m-xylene and decachlorobiphenyl were spiked into every sample. QC acceptance criteria was met for percent recovery (%R) for both surrogates in all of the field samples, QC samples and blanks analyzed for PCBs.

## Matrix Spike / Matrix Spike Duplicate Analyses

Data for matrix spike / matrix spike duplicates were evaluated to determine laboratory precision and method bias for specific sample matrices.

A matrix spike / matrix spike duplicate was performed on sample 2001338 with this data set. All QC acceptance criteria were met.

### **Laboratory Control Sample**

Laboratory control samples are evaluated to assess the internal quality control of the laboratory's analytical method accuracy and method bias.

All QC acceptance criteria were met for percent recovery (%R) for the LCS samples.

### Field Duplicate

Samples 2001341 and 2001342 were submitted as a field duplicate pair. The relative percent difference between the results was 12%. A QC acceptance criterion is less

than 50% RPD for soil samples.

## OVERALL EVALUATION OF THE DATA

The objective of the final evaluation of this data package is to identify the "analytical error" and any "sampling error" associated with the data. The sum of the "analytical error" and the "sampling error" equals the "measurement error." The end user should use the "measurement error" in conjunction with sampling variability to determine "total error" (total uncertainty) associated with the data. Ultimately, the end user should assess data usability in the context of the pre-determined Data Quality Objectives (DQOs) and resultant: "total error" of the data.

No data were qualified.

To the best of my knowledge, after thorough review of the attached sampling data and validation information, I believe that the data does show that the Performance Standards identified Remedial Action Work Plan have been met.

Authorized Pratt & Whitney Representative

Christia M. Clering



# Loureiro Engineering Associates, Inc.

To:

Brian Cutler / LEA

From:

Tina Clemmey / LEA

DV Report Date:

01/22/02

Project Name:

Willow Brook Pond PCB Remediation

Sampled Date:

11/27/01

A Tier II data validation was performed on data for five soil samples collected on November 27, 2001 for the Willow Brook Willow Pond PCB Remediation Project at Pratt & Whitney in East Hartford, Connecticut.

The samples were submitted to Premier Laboratory, LLC in Brooklyn, CT. Premier processed and reported these samples under Project 88UT103. The internal laboratory lot number associated with this sample delivery group is E111A87.

The sample results were assessed according to Region 1, EPA Data Validation Functional Guidelines for Evaluating Environmental Analyses: Organic Data Review (December 1996), Pesticides / PCBs Data Review (July 1988) and Inorganic Data Review (February 1989) as appropriate. Chemistry parameters were validated using the same logic as presented in Region 1, EPA validation guidelines for other parameters where applicable. Since there is no official guidance at this time for validating general chemistry analyses. Technical judgement was applied when applicable and necessary.

The following tables have been included in this report: Table I: Summary of Tier II Data Assessment, Table II Samples associated with the sample delivery group (SDG),

Table III: Summary of Data Validation Qualifiers applied to samples as a result of the validation, and Table IV: Summary of Qualified Analytical Results.

An explanation of the validation decisions is presented below.

### **SAMPLES**

Samples included in this review are listed in Table II of this report.

# ORGANIC DATA REVIEW

Organic data review includes review of analyses for volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs).

## **REVIEW OF ELEMENTS**

Sample data were reviewed for the following parameters:

Performance Evaluation	Sample Data	•	Surrogate Compounds

- Agreement with Chain-of-Custody
   Internal Standards
- Preservation and Holding Time
   Matrix Spike / Matrix Spike Duplicate
- GC/MS Instrument Performance
   Laboratory Control Sample
   Check
- Initial and Continuing Calibration
   Practical Quantitation Limits
- Blanks
   Tentatively Identified compounds

#### DISCUSSION

## Agreement of Analyses with Chain of Custody

Sample reports are checked to verify that the reported results corresponded to analytical requests as detailed on the chain-of-custody record. The chain-of-custody form is reviewed for accuracy and completeness.

Samples were relinquished to Premier Laboratory, LLC under chain-of-custody on November 27, 2001. The laboratory received the samples on November 28, 2001. During validation, the chain-of-custody form was reviewed for accuracy and completeness. No discrepancies were noted.

## **VOLATILE ORGANIC ANALYSES**

#### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

A PE sample was not submitted with this data set.

## Preservation and technical holding times

The validity of the analytical results is evaluated based on the preservation techniques used and the holding time of the sample, as appropriate.

The sample cooler temperature recorded by the laboratory was  $10.3^{\circ}$ C. The QC acceptance limit for sample temperature is  $2^{\circ}$ C  $-6^{\circ}$ C. Samples were not qualified

based on sample temperature since the time from sample collection to transport to receipt at the laboratory is very short. All samples were placed on ice and in addition, all VOC soil samples were preserved on site in methanol according to SW846 Method 5035. All samples were extracted and analyzed within method specified holding times.

### **GC/MS Instrument Performance Check**

Gas chromatograph / mass spectrometer (GC/MS) instrument performance (tuning) checks are evaluated to ensure proper mass calibration and resolution, identification and to some degree sensitivity.

All ion abundance acceptance criteria specified in the methods for VOCs were met for each 12-hour period that samples were analyzed.

# **Initial and Continuing Calibration**

Compliance requirements for initial and continuing calibrations are evaluated to ensure that the instruments are capable of producing acceptable qualitative and quantitative data.

All VOC target compounds were within the QC acceptance criteria for the initial and continuing calibrations.

#### Blanks

Blank analyses data is to determine the existence and magnitude of contamination problems resulting from laboratory and / or field activities and to subsequently assess their contribution to measurement error

A trip blank (2001357) and all method blanks were evaluated for contamination for VOCs. No detects were reported.

## **Surrogate Compounds**

Sample matrix effects and laboratory performance on individual samples are assessed by evaluating surrogate recovery. Poor surrogate recovery can be an indication of Interfering matrix effects, presence of high concentration target and/or non-target analytes, and poor laboratory performance.

QC acceptance criteria was met for percent recovery (%R) for surrogates in all of the field samples, QC samples and blanks analyzed for VOCs.

## **Internal Standards**

Instrument performance, stability and laboratory precision are evaluated by assessing internal standard area count recovery and retention time drift.

All VOC data for the QC acceptance criteria were met for internal standard (IS) area counts and retention times.

## Matrix Spike / Matrix Spike Duplicate Analyses

Data for matrix spike / matrix spike duplicates were evaluated to determine laboratory precision and method bias for specific sample matrices.

The laboratory performed a VOC matrix spike / matrix spike duplicate (MS/MSD) analyses on LEA soil sample 2001338. The following table summarizes data, which did not meet QC acceptance criteria:

Compound	%Rec MS	%Rec MSD	QC limits	RPD	Positive detects	NDs	Bias	Affected Samples
Chloroethane	48	43	60-142		J	J	Low	2001338

All affected data were qualified accordingly.

# **Laboratory Control Sample**

Laboratory control samples are evaluated to assess the internal quality control of the laboratory's analytical method accuracy and method bias.

All data met the QC acceptance criteria for percent recovery for the VOC laboratory control sample(s).

## **Field Duplicate**

Samples 2001345 and 2001356 were submitted as a field duplicate pair. The relative percent difference was not calculated since no detects were reported in either sample.

## **Tentatively Identified Compounds**

No tentatively identified compounds were reported.

### SEMIVOLATILE ORGANIC ANALYSES

#### Performance Evaluation Data

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

A PE sample was not submitted with this data set.

## Preservation and technical holding times

The validity of the analytical results is evaluated based on the preservation techniques used and the holding time of the sample, as appropriate.

The sample cooler temperature recorded by the laboratory was 10.3°C. The QC acceptance limit for sample temperature is 2°C – 6°C. Samples were not qualified based on sample temperature since the time from sample collection to transport to receipt at the laboratory is very short. All samples were placed on ice and in addition, all VOC soil samples were preserved on site in methanol according to SW846 Method 5035. All samples were extracted and analyzed within method specified holding times.

#### **GC/MS Instrument Performance Check**

Gas chromatograph / mass spectrometer (GC/MS) instrument performance (tuning) checks are evaluated to ensure proper mass calibration and resolution, identification and to some degree sensitivity.

All ion abundance acceptance criteria specified in the methods SVOCs were met for each 12-hour period that samples were analyzed.

## **Initial and Continuing Calibration**

Compliance requirements for initial and continuing calibrations are evaluated to ensure that the instruments are capable of producing acceptable qualitative and quantitative data.

All SVOC target compounds were within the QC acceptance criteria for the initial and continuing calibrations.

#### **Blanks**

Blank analyses data is to determine the existence and magnitude of contamination problems resulting from laboratory and / or field activities and to subsequently assess their contribution to measurement error

All method blanks were evaluated for contamination for SVOCs. No detects were reported.

# **Surrogate Compounds**

Sample matrix effects and laboratory performance on individual samples are assessed by evaluating surrogate recovery. Poor surrogate recovery can be an indication of Interfering matrix effects, presence of high concentration target and/or non-target analytes, and poor laboratory performance.

QC acceptance criteria was met for percent recovery (%R) for surrogates in all of the field samples, QC samples and blanks analyzed for SVOCs.

#### Internal Standards

Instrument performance, stability and laboratory precision are evaluated by assessing internal standard area count recovery and retention time drift.

All SVOC QC acceptance criteria were met for internal standard (IS) area counts and retention times.

## Matrix Spike / Matrix Spike Duplicate Analyses

Data for matrix spike / matrix spike duplicates were evaluated to determine laboratory precision and method bias for specific sample matrices.

The laboratory performed an SVOC matrix spike / matrix spike duplicate (MS/MSD) analyses on LEA soil sample 2001338. All data for target compounds met the QC acceptance criteria.

### **Laboratory Control Sample**

Laboratory control samples are evaluated to assess the internal quality control of the laboratory's analytical method accuracy and method bias.

All data met the QC acceptance criteria for percent recovery for the SVOC laboratory control sample(s).

# Field Duplicate

Samples 2001345 and 2001356 were submitted as a field duplicate pair. The relative percent difference was not calculated since no detects were reported in either sample.

# **Tentatively Identified Compounds**

No tentatively identified compounds were reported.

## **INORGANIC DATA REVIEW**

## **REVIEW OF ELEMENTS**

Sample data were reviewed for the following parameters:

-	Performance Evaluation Data	•	Matrix Spike
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- Agreement with Chain of Custody Field Duplicates
- Preservation and Technical Holding
   Laboratory Duplicates
   Times
  - Furnace AA / Post Digestion Spike
- Calibration Verification Laboratory Control Sample
- Blanks Serial Dilution Results
- ICP Interference Check Sample Detection Limit Results

#### DISCUSSION

### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

A PE sample was not submitted with this data set.

## **Preservation and Holding Times**

All samples were properly preserved and analyzed within method-specified holding times.

#### Calibration Verification

Compliance requirements are evaluated to ensure that the instrument is capable of producing acceptable quantitative data.

All initial calibration verification (ICV) and continuing calibration verification (CCV) for all metals were analyzed at the appropriate frequency and were within control limits

#### Lab Fortified Blanks

Blank analyses were assessed to determine the existence and magnitude of contamination problems.

All analytes were within acceptance limit for percent recovery for the lab fortified blank analyses.

### **ICP Interference Check Sample**

The ICP interference check sample is evaluated to verify the laboratory's interelement and background correction factors.

All data met the QC acceptance criteria.

# Matrix Spike / Matrix Spike Duplicate

The matrix spike sample was evaluated to provide information about the effect of the sample matrix on the digestion and measurement methodology.

A MS/MSD was performed on sample 2001338. All analytes were within acceptance limits for % recovery (%R) and Relative Percent Difference (RPD) for the MS and MSD analyses with the exception of zinc which was estimated due to low MS %R (73.7%) outside the acceptance limits (75-125%). All affected data were qualified accordingly.

# **Laboratory Duplicates**

All analytes were within acceptance limits for Relative Percent Difference for the laboratory duplicate analyses. Criteria for acceptable duplicate precision is less than 35% RPD for sample results that are greater than five times the CRDL and +/- 2X CRDL for sample results that are less than the five times the CRDL.

## **Field Duplicates**

Field duplicates were assessed to determine overall precision (i.e. field and laboratory precision).

Samples 2001345 and 2001356 were submitted as a field duplicate pair. The following table summarizes duplicate precision data:

Compound	Sample # 2001345 (mg/kg)	Duplicate # 2001356 (mg/kg)	RPD	Action	Affected Samples
Arsenic	.93	1.1	17%	A	2001345, 2001356
Barium	46	51	10%	A	2001345, 2001356
Cadmium	.44	2.5	140%	J	2001345, 2001356
Chromium	6.8	7.3	7%	A	2001345, 2001356
Copper	6.7	8.5	24%	A	2001345, 2001356
Lead	44	72	48%	A	2001345, 2001356
Nickel	6.8	7.0	3%	A	2001345, 2001356
Zinc	50	38	27%	A	2001345, 2001356
Mercury	.17	.18	6%	A	2001345, 2001356

Acceptable duplicate precision for non-aqueous samples is <50% RPD for results greater than two times the detection limit. All affected data were qualified accordingly.

# **Laboratory Control Sample**

The laboratory control sample is evaluated to assess the efficiency of the digestion procedure.

All data met the QC acceptance criteria for percent recovery (%R) criteria.

### **GENERAL CHEMISTRY DATA REVIEW**

General Chemistry data review includes review of analyses for Total Petroleum Hydrocarbons (TPH). There are currently no Region 1 functional guidelines for data validation of general chemistry parameters. Therefore, general chemistry data are evaluated based upon the QC requirements specified in the method by which they were analyzed.

#### REVIEW OF ELEMENTS

Sample data were reviewed for the following parameters:

- Performance Evaluation Sample Data
- Agreement with Chain of Custody
- Preservation and Holding Time
- Initial Calibration Verification
- Continuing Calibration Verification
- Blanks

- Matrix Spike
- Field Duplicates
- Laboratory Duplicates
- Laboratory Control Sample
- Detection Limit Results

### **DISCUSSION**

#### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias.

A PE sample was not submitted with this data set.

# **Preservation and Holding Times**

All samples analyzed for TPH were extracted within method-specified holding times.

### **Initial Calibration Verification**

The initial calibration was analyzed at the appropriate frequency. The correlation coefficient for the initial calibration curve was greater than 0.9950. All initial calibration QC acceptance criteria were met.

# **Continuing Calibration Verification**

The continuing calibrations were analyzed at the appropriate frequency. The %Rs were within +/- 10% for all continuing calibration analyses. All QC acceptance criteria were met.

#### Blanks

No positive detects were reported in the associated method blanks. All QC acceptance criteria for the blanks were acceptable

# **Matrix Spike**

The MS / MSD was within QC acceptance limits for TPH.

# Field Duplicate

Samples 2001345 and 2001356 were submitted as a field duplicate pair. The relative percent difference was not calculated since no detects were reported in either sample.

# **Laboratory Duplicate**

Laboratory precision was demonstrated through laboratory duplicate analysis. All sample duplicate results were within QC acceptance limits for duplicate RPD.

### **Laboratory Control Sample**

All QC acceptance criteria were met for LCS for TPH.

## OVERALL EVALUATION OF THE DATA

The objective of the final evaluation of this data package is to identify the "analytical error" and any "sampling error" associated with the data. The sum of the "analytical error" and the "sampling error" equals the "measurement error." The end user should use the "measurement error" in conjunction with sampling variability to determine "total error" (total uncertainty) associated with the data. The data in this data package have been qualified as rejected (R) or estimated (J) depending upon the degree of analytical and / or sampling error. Ultimately, the end user should assess data usability in the context of the pre-determined Data Quality Objectives (DQOs) and resultant "total error" of the data.

Chloroethane was estimated due to low MS/MSD % recovery. Zinc was estimated due to low MS %R. Cadmium was estimated due to high RPD in the field duplicate analysis.

To the best of my knowledge, after thorough review of the attached sampling data and validation information, I believe that the data does show that the Performance Standards identified in Paragraph 16 of the Partial Consent Decree Relating to Multiple Parties, Performance of Remedial Work and Cost Recovery have been met.

Authorized Pratt & Whitney Representative

Christia M. Clerry



# Loureiro Engineering Associates, Inc.

To:

Brian Cutler / LEA

From:

Tina Clemmey / LEA

DV Report Date:

11/15/01

Project Name:

Willow Brook Pond PCB Remediation

Sampled Date:

11/13/01

A Tier II data validation was performed on data for five confirmational soil sample collected on November 13, 2001 for the Willow Brook Willow Pond PCB Remediation Project at Pratt & Whitney in East Hartford, Connecticut. The samples were collected from locations of the Site designated as WT-CS-02-029 through WT-CS-02-032. The samples were analyzed for PCBs by USEPA SW846 Method 8082.

The samples were submitted to Premier Laboratory, LLC in Brooklyn, CT. Premier processed and reported these samples under Project 88UT002-103. The internal laboratory lot number associated with this sample delivery group is E111539. Samples 2001304 through 2001308 were analyzed within the analytical batch 11405.

The sample results were assessed according to Region 1, EPA Data Validation Functional Guidelines for Evaluating Environmental Analyses: Pesticides / PCBs, July 1988. Additional guidance and logic was obtained from the Functional Guidelines for Volatile / Semivolatile Data Validation Functional Guidelines, December 1996 when applicable. Technical judgement was also applied where applicable

The following tables have been included in this report: Table 1: Tier II Data

Assessment, Table 2: Samples associated with the sample delivery group (SDG), Table 3: Summary of Data Validation Qualifiers applied to samples as a result of the validation, Table 4: Summary of Qualified Analytical Results.

An explanation of the validation decisions is presented below.

#### **SAMPLES**

Samples included in this review are listed in Table 2 of this report.

### **PCB ANALYSES**

#### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias. The frequency for performance evaluation samples for this project is one per twenty field samples.

A double blind aqueous performance evaluation sample was not submitted with this data set.

# Preservation and technical holding times

The validity of the analytical results is evaluated based on the preservation techniques used and the holding time of the sample, as appropriate.

All soil samples were extracted and analyzed within acceptable holding time. The sample temperature upon receipt was 4.7°C, which was within the acceptance limit of 4°C +/- 2°C.

### **Agreement with Chain of Custody**

According to the chain of custody, samples 2001304 through 2001309 were shipped to Premier laboratory on November 14, 2001. PCBs and additional parameters were requested on the chain of custody. This validation report discusses the PCB analyses only. Validation of other parameters is discussed on separate cover. No discrepancies were noted.

## **Initial Calibration and Continuing Calibration**

Compliance requirements for initial and continuing calibrations are evaluated to ensure that the instruments are capable of producing acceptable qualitative and quantitative data.

An initial calibration curves were performed on GC4 and GC8. Equal concentrations of a mixture of Aroclors 1016 and 1260 were used. Calibration factors were calculated at five concentrations. All percent relative standard deviations (%RSD) were less than 20%.

Continuing calibration verifications were performed on GC4 and GC8. Each continuing calibration standard consisted of a mixture of Aroclors 1016 and 1260 and was performed at a single concentration. The percent drift (%D) was less than 15%. QC acceptance criteria were met for the continuing calibration.

#### **Blanks**

Blank analyses data is to determine the existence and magnitude of contamination problems resulting from laboratory and / or field activities and to subsequently assess their contribution to measurement error

No detects were reported in the method blank.

# **Surrogate Compounds**

Sample matrix effects and laboratory performance on individual samples are

assessed by evaluating surrogate recovery. Poor surrogate recovery can be an indication of Interfering matrix effects, presence of high concentration target and/or non-target analytes, and poor laboratory performance.

Surrogates tetrachloro-m-xylene and decachlorobiphenyl were spiked into every sample. QC acceptance criteria was met for percent recovery (%R) for both surrogates in all of the field samples, QC samples and blanks analyzed for PCBs.

# Matrix Spike / Matrix Spike Duplicate Analyses

Data for matrix spike / matrix spike duplicates were evaluated to determine laboratory precision and method bias for specific sample matrices.

The laboratory performed a PCB matrix spike / matrix spike duplicate (MS/MSD) analyses on LEA soil sample 2001304. Aroclors 1016 and 1260 were spiked into the field sample. All MS/MSD spikes were diluted out. The % recovery and RPD could not be evaluated. All surrogates were in control for the unspiked sample, the MS and the MSD analyses. The associated laboratory control sample was in control. The result of the unspiked sample was reported as 10000 ug/kg of Aroclor 1254. The result was accepted as reported.

### **Laboratory Control Sample**

Laboratory control samples are evaluated to assess the internal quality control of the laboratory's analytical method accuracy and method bias.

All QC acceptance criteria were met for percent recovery (%R) for the LCS samples.

# Field Duplicate

Samples 2001306 (Aroclor 1254 2400 ug/kg) and 2001307 (Aroclor 1900 ug/kg) were submitted as a field duplicate pair. The relative percent difference (RPD) for

results for was 23%. QC acceptance criterion for RPD for field duplicate precision is less than 50%. The results were accepted as reported.

# OVERALL EVALUATION OF THE DATA

The objective of the final evaluation of this data package is to identify the "analytical error" and any "sampling error" associated with the data. The sum of the "analytical error" and the "sampling error" equals the "measurement error." The end user should use the "measurement error" in conjunction with sampling variability to determine "total error" (total uncertainty) associated with the data. Ultimately, the end user should assess data usability in the context of the pre-determined Data Quality Objectives (DQOs) and resultant "total error" of the data.

All data were accepted as reported.

To the best of my knowledge, after thorough review of the attached sampling data and validation information, I believe that the data does show that the Performance Standards identified Remedial Action Work Plan have been met.

Authorized Pratt & Whitney Representative

Christia N. Clauny



# Loureiro Engineering Associates, Inc.

To: From:

Brian Cutler / LEA
Tina Clemmey / LEA

DV Report Date:

11/12/01

Project Name:

Willow Brook Pond PCB Remediation

Sampled Date:

11/9/01

A Tier II data validation was performed on data for twenty-four confirmational soil sample collected on November 9, 2001 for the Willow Brook Willow Pond PCB Remediation Project at Pratt & Whitney in East Hartford, Connecticut. The samples were collected from locations of the Site designated as WT-CS-03-0007 through WT-CS-03-014 and WT-CS-02-015 through WT-CS-02-028. An aqueous double blind performance evaluation sample was also submitted with this data set. The samples were analyzed for PCBs by USEPA SW846 Method 8082.

The samples were submitted to Premier Laboratory, LLC in Brooklyn, CT. Premier processed and reported these samples under Project 88UT002-103. The internal laboratory lot number associated with this sample delivery group is E111435. Samples 2001276 through 2001295 were analyzed within the analytical batch 11366, samples 2001296 through 2001299 were analyzed with analytical batch 11362 and sample 2001301 was analyzed with 11370.

The sample results were assessed according to Region 1, EPA Data Validation Functional Guidelines for Evaluating Environmental Analyses: Pesticides / PCBs, July 1988. Additional guidance and logic was obtained from the Functional Guidelines for Volatile / Semivolatile Data Validation Functional Guidelines,

December 1996 when applicable. Technical judgement was also applied where applicable

The following tables have been included in this report: Table 1: Tier II Data Assessment, Table 2: Samples associated with the sample delivery group (SDG), Table 3: Summary of Data Validation Qualifiers applied to samples as a result of the validation, Table 4: Summary of Qualified Analytical Results.

An explanation of the validation decisions is presented below.

#### **SAMPLES**

Samples included in this review are listed in Table 2 of this report.

### PCB ANALYSES

#### **Performance Evaluation Data**

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias. The frequency for performance evaluation samples for this project is one per twenty field samples.

A double blind aqueous performance evaluation sample (2001301) was submitted with this data set. The PE sample was prepared by Environmental Resource Associates (ERA). The ERA lot number associated with this sample was 1102-01-05.2 (611). Aroclor 1254 was spiked into the sample at a concentration of 4.78 ug/l. The performance acceptance limit was 2.91-5.56 ug/l. The laboratory reported a concentration of 2.4 ug/l, which was below the performance acceptance limit. All non-detected results for Aroclor 1254 in all samples in the data set were rejected due to the possibility of false negatives. All detected results for Aroclor 1254 were estimated and may be biased low.

All Performance data is presented in Attachment 1. Also included in Attachment 1 is a letter from the laboratory explaining the low performance sample data. Sample specific qualification is presented in Tables 3 and 4 of this validation report.

### Preservation and technical holding times

The validity of the analytical results is evaluated based on the preservation techniques used and the holding time of the sample, as appropriate.

All soil samples were extracted and analyzed within acceptable holding time. The sample temperature upon receipt was 9°C, which was not within the acceptance limit of 4°C +/- 2°C. No qualification was applied based on sample temperature based on the logistics between the site and the laboratory.

### Agreement with Chain of Custody

According to the chain of custody, samples 2001283 through 2001301 were shipped to Premier laboratory on November 19, 2001. PCBs and additional parameters were requested on the chain of custody. This validation report discusses the PCB analyses only. The additional parameters are discussed on separate cover. No discrepancies were noted.

# **Initial Calibration and Continuing Calibration**

Compliance requirements for initial and continuing calibrations are evaluated to ensure that the instruments are capable of producing acceptable qualitative and quantitative data.

An initial calibration curve was performed on GC8. Equal concentrations of a mixture of Aroclors 1016 and 1260 were used. Calibration factors were calculated at five concentrations. All percent relative standard deviations (%RSD) were less than 20% with the exception of one of the three peaks (PK2) on GC 8, which was reported as 23.1%. The average %RSD was less than 20% for this standard. QC acceptance

criteria were met for the initial calibration.

Continuing calibration verifications were performed on GC4 and GC8. Each continuing calibration standard consisted of a mixture of Aroclors 1016 and 1260 and was performed at a single concentration. The percent drift (%D) was less than 15%. QC acceptance criteria were met for the continuing calibration.

#### **Blanks**

Blank analyses data is to determine the existence and magnitude of contamination problems resulting from laboratory and / or field activities and to subsequently assess their contribution to measurement error

No detects were reported in the method blank.

## **Surrogate Compounds**

Sample matrix effects and laboratory performance on individual samples are assessed by evaluating surrogate recovery. Poor surrogate recovery can be an indication of Interfering matrix effects, presence of high concentration target and/or non-target analytes, and poor laboratory performance.

Surrogates tetrachloro-m-xylene and decachlorobiphenyl were spiked into every sample. QC acceptance criteria was met for percent recovery (%R) for both surrogates in all of the field samples, QC samples and blanks analyzed for PCBs.

### Matrix Spike / Matrix Spike Duplicate Analyses

Data for matrix spike / matrix spike duplicates were evaluated to determine laboratory precision and method bias for specific sample matrices.

The laboratory performed a PCB matrix spike / matrix spike duplicate (MS/MSD) analyses on LEA soil sample 2001299. Aroclors 1016 and 1260 were spiked into the field sample. High % recoveries were reported for the MS and MSD analyses on

column #2. All % recoveries were within acceptance limits on column #1. A concentration of Aroclor 1254 was reported at 680 ug/g in the unspiked sample. All surrogates were in control for the unspiked sample, the MS and the MSD analyses. The associated laboratory control sample was in control. The results of the unspiked sample were accepted as reported.

## **Laboratory Control Sample**

Laboratory control samples are evaluated to assess the internal quality control of the laboratory's analytical method accuracy and method bias.

All QC acceptance criteria were met for percent recovery (%R) for the LCS samples.

# Field Duplicate

Samples 2001291 / 2001292 and 2001295 / 2001296 were submitted as field duplicate pairs. The relative percent difference (RPD) for results for samples 2001291 / 2001292 was 49%. The relative percent difference for results for samples 2001295 / 2001296 was 119%. QC acceptance criterion for RPD for field duplicate precision is less than 50%. Aroclor 1254 results for all four samples were estimated based on poor field duplicate precision.

# OVERALL EVALUATION OF THE DATA

The objective of the final evaluation of this data package is to identify the "analytical error" and any "sampling error" associated with the data. The sum of the "analytical error" and the "sampling error" equals the "measurement error." The end user should use the "measurement error" in conjunction with sampling variability to determine "total error" (total uncertainty) associated with the data. Ultimately, the end user should assess data usability in the context of the pre-determined Data Quality Objectives (DQOs) and resultant "total error" of the data.

Data were qualified as rejected based on low performance sample recovery. Some data were qualified as estimated based on low performance sample recovery and poor field duplicate precision. The entire data set will be reanalyzed by the laboratory due to unacceptable performance sample results.

To the best of my knowledge, after thorough review of the attached sampling data and validation information, I believe that the data does show that the Performance Standards identified Remedial Action Work Plan have been met.

Authorized Pratt & Whitney Representative

Christia M. Cleany



# Loureiro Engineering Associates, Inc.

To: From: Brian Cutler / LEA
Tina Clemmey / LEA

DV Report Date:

10/28/01

Project Name:

Willow Brook Pond PCB Remediation

Sampled Date:

10/26/01

A Tier II data validation was performed on data for twenty-one confirmational soil samples collected on October 26, 2001 for the Willow Brook Willow Pond PCB Remediation Project at Pratt & Whitney in East Hartford, Connecticut. Samples were collected from locations of the Site designated as WT-CS-02-001 through WT-CS-02-013 and WT-CS-03-01 through WT-CS-03-006. All samples were analyzed for PCBs by USEPA SW846 Method 8082.

The samples were submitted to Premier Laboratory, LLC in Brooklyn, CT. Premier processed and reported these samples under Project 88UT002-103. The internal laboratory lot number associated with this sample delivery group is E110C69. Samples 2001186 through 2001199 were analyzed within the analytical batch 11058. Samples 2001200 through 2001206 were analyzed within the analytical batch 11063.

The sample results were assessed according to Region 1, EPA Data Validation Functional Guidelines for Evaluating Environmental Analyses: Pesticides / PCBs, July 1988. Additional guidance and logic was obtained from the Functional Guidelines for Volatile / Semivolatile Data Validation Functional Guidelines, December 1996 when applicable. Technical judgement was also applied where applicable

The following tables have been included in this report: Table 1: Tier II Data Assessment, Table 2: Samples associated with the sample delivery group (SDG), Table 3: Summary of Data Validation Qualifiers applied to samples as a result of the validation, Table 4: Summary of Qualified Analytical Results.

An explanation of the validation decisions is presented below.

#### **SAMPLES**

Samples included in this review are listed in Table 2 of this report.

### **PCB ANALYSES**

### Performance Evaluation Data

Data for performance evaluation samples (PEs) are generated to provide information on the overall accuracy and bias of the analytical method and on laboratory performance. The PE is evaluated to assess the magnitude and direction of the quantitative bias. The frequency for performance evaluation samples for this project is one per twenty field samples.

A performance evaluation sample was not submitted with this data set.

# Preservation and technical holding times

The validity of the analytical results is evaluated based on the preservation techniques used and the holding time of the sample, as appropriate.

All soil samples were extracted and analyzed within acceptable holding time. The sample temperature upon receipt was 17°C, which exceeds the acceptance limit of 4°C +/- 2°C. Samples were not qualified based on temperature because of the logistics of the courier process. In many cases during this project, the courier was waiting to transport samples as the field sampler was collecting the samples. The samples were

then placed into the cooler at ambient temperature. In addition, the trip from the Site to the laboratory was approximately 45 minutes, which was not enough time for the samples to be cooled to 4°C. No qualification was applied based on sample temperature.

### **Initial Calibration and Continuing Calibration**

Compliance requirements for initial and continuing calibrations are evaluated to ensure that the instruments are capable of producing acceptable qualitative and quantitative data.

An initial calibration curves were performed on GC4 and GC8. Equal concentrations of a mixture of Aroclors 1016 and 1260 were used. Calibration factors were calculated at five concentrations. All percent relative standard deviations (%RSD) were less than 20%. QC acceptance criteria were met for the initial calibration.

Continuing calibration verifications were performed on GC8 and GC8. Each continuing calibration standard consisted of a mixture of Aroclors 1016 and 1260 and was performed at a single concentration. The percent drift (%D) was less than 15%. QC acceptance criteria were met for the continuing calibration.

#### **Blanks**

Blank analyses data is to determine the existence and magnitude of contamination problems resulting from laboratory and / or field activities and to subsequently assess their contribution to measurement error

No detects were reported in the method blank.

### **Surrogate Compounds**

Sample matrix effects and laboratory performance on individual samples are assessed by evaluating surrogate recovery. Poor surrogate recovery can be an indication of Interfering matrix effects, presence of high concentration target and/or non-target analytes, and poor laboratory performance.

Surrogates tetrachloro-m-xylene and decachlorobiphenyl were spiked into every sample. QC acceptance criteria was met for percent recovery (%R) for both surrogates in all of the field samples, QC samples and blanks analyzed for PCBs with the exception of samples 2001204MS and 2001204MSD which had one surrogate within acceptance limits. Surrogates were diluted out for samples 2001186, 2001186MSD, 2001187, 2001189, 2001190, 2001191, 2001192, 2001197, 2001202, 2001204Ms, and 2001204MSD. No qualification was applied based on surrogate recovery.

# Matrix Spike / Matrix Spike Duplicate Analyses

Data for matrix spike / matrix spike duplicates were evaluated to determine laboratory precision and method bias for specific sample matrices.

The laboratory performed a PCB matrix spike / matrix spike duplicate (MS/MSD) analyses on LEA soil sample 2001186. Aroclors 1016 and 1260 were spiked into the field sample. The result of the unspiked sample was 48,000 ug/kg and was performed on a 50X dilution. The spike concentration was diluted out and therefore the %R and RPD cannot be evaluated.

The laboratory also performed a PCB matrix spike / matrix spike duplicate (MS/MSD) analyses on LEA soil sample 2001204. Aroclors 1016 and 1260 were spiked into the field sample. Ten out of 24 spike recoveries were below acceptance criteria. Three out of 12 RPDs were outside acceptance limits. It should also be noted that one surrogate was also outside acceptance limits in the MS and in the MSD. The problem appears to be isolated to the MS and MSD since both surrogates were within control limits in the unspiked sample and the laboratory control sample for the batch was in control. No qualification was applied based on the MS/MSD results.

# **Laboratory Control Sample**

Laboratory control samples are evaluated to assess the internal quality control of the laboratory's analytical method accuracy and method bias.

All QC acceptance criteria were met for percent recovery (%R) for the LCS compounds (Aroclors 1016 and 1260) for batches 11056 and 11063.

### **Field Duplicate**

Samples 2001199 and 2001200 were submitted as a field duplicate pair with this data set. Aroclor 1254 was reported in sample 2001199 at 65 ug/kg. Aroclor 1254 was reported in sample 2001200 at 22 ug/kg. The relative percent difference (RPD) between the results was not calculated since both results were not greater than two times the reporting limit. Greater variability of results is expected at or near the reporting limit. Acceptable duplicate precision for duplicate soil samples is less than 50%. No qualification was necessary.

### OVERALL EVALUATION OF THE DATA

The objective of the final evaluation of this data package is to identify the "analytical error" and any "sampling error" associated with the data. The sum of the "analytical error" and the "sampling error" equals the "measurement error." The end user should use the "measurement error" in conjunction with sampling variability to determine "total error" (total uncertainty) associated with the data. Ultimately, the end user should assess data usability in the context of the pre-determined Data Quality Objectives (DQOs) and resultant "total error" of the data.

All QC acceptance criteria were met for this data set. No qualifiers were applied to the data.

To the best of my knowledge, after thorough review of the attached sampling data and validation information, I believe that the data does show that the Performance Standards identified Remedial Action Work Plan have been met.

Authorized Pratt & Whitney Representative

Christia M. Claury